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Original Communications.

ART. I.—*On the Effects of Emetics in the young subject.* By JOHN B. BECK, M.D., Professor of Materia Medica and Medical Jurisprudence in the College of Physicians and Surgeons of New York.

WITH the exception of cathartics, there is no class of remedies more generally resorted to in the management of the diseases of children, than emetics; and in a large number of cases, there is certainly none more useful. They are active agents, however, and like all agents of this description are capable of doing good or evil, according to the manner in which they are given. In the use of them, therefore, it is all important to ascertain whether there is anything in the young subject which modifies their operation. Unless this is done, it is impossible, of course, to prescribe them with any degree of precision, or even safety. The subject is one of interest as well as of practical importance, although it does not appear to have attracted the attention to which it is so justly entitled. In a previous paper,* I endeavored to point out how the effects of opium were modified in the infant subject. On the present occasion, I propose to pursue a similar investigation in relation to Emetics.

As it regards *the mere mechanical act of vomiting, young children perform it more easily than adults.* This is a fact which has long been observed by practical men, and about which there can be no question. It is no doubt a wise provision of the Creator to enable the child to relieve itself from the effects of an overloaded stomach, to which it is so constantly liable in the early period of its existence. Although the fact has thus been long known, and the intention of it is obvious, yet the reasons have not been so well understood. They appear to be the two following.

In the first place, from the experiments of Majendie, in relation to the manner in which vomiting is performed, it would seem that in that pro-

* Journal of Medicine and the Collateral Sciences, for January, 1844, p. 1.

cess, the stomach is in a great measure passive, and that a certain degree of pressure upon it from the surrounding organs is absolutely necessary, before vomiting can be accomplished. This pressure is made by the contraction of the diaphragm from above and of the abdominal muscles from below, upon the viscera surrounding the stomach. As a matter of course, the pressure thus exerted will be greater or less, according to the volume of the viscera. Now it is well known that in the early periods of life, the abdominal viscera have a much larger proportional size than they have in the adult. This is particularly the case with the liver.* In early life, therefore, during the act of vomiting, the pressure made upon the stomach by the surrounding organs must necessarily be greater than it is in the adult, and in consequence of this, the greater the ease with which the organ is evacuated.

In the second place, the shape of the stomach in the infant is more favorable to the easy evacuation of its contents. That the stomach undergoes successive changes in its shape, from birth onwards, is a fact, which although but recently investigated, is, I believe, well established, and for its elucidation we are indebted to the labors of Prof. Shultz of Germany. His attention seems to have been called to it from the peculiarities which he noticed in the shape of the stomach of those animals which vomit easily, and those which cannot be made to vomit at all. Thus for example, the horse, rabbit, hare, and guinea pig, cannot be made to vomit even by the most powerful emetics, while the dog and the cat throw up very readily—and he found that the shape of the stomach in the two sets of animals was entirely different, and that the same difference exists between the stomach of the child and the stomach of the adult. The former is more of a conical form, drawn out lengthwise, and gradually narrowing towards the two extremities. The œsophagus is inserted into the fundus at the left extremity, and at a distance from the pylorus, leaving the two curvatures of the stomach running almost parallel to each other. In short the stomach of the child resembles that of the carnivorous animals generally. The latter, i. e. the stomach of the adult, is very different; it is more circular in its form, and the œsophagus, instead of being inserted into the left extremity, is in the middle, between the left extremity and the pylorus. The pylorus, too, is drawn back towards the cardia, so that the small curvature is very short, while the large curvature is greatly extended. The consequence of all this is, that the stomach of the adult has a rounder shape, resembling that of herbivorous animals generally. Now, according to Prof. Shultz, the stomach which approaches nearest to the cylindrical shape, must have its contents evacuated with the greatest ease;† and this would appear to be the case, as a matter of course, whatever theory of vomiting may be adopted; whether performed, as some suppose, by the simple antiperistaltic action of the stomach itself; or according to Majendie, by the contractions of the diaphragm and abdominal muscles alone; or according to others, by the combined action of all these organs.

The foregoing considerations would seem to account very satisfactorily, both physiologically and anatomically, for the fact with which we

* According to Meckel the proportion between the weight of the liver and that of the whole body, is as 1 : 18 or as 1 : 20, in the full grown fœtus; while in the adult it is as 1 : 35 or as 1 : 36. Meckel's Anatomy by Doane, vol. iii., p. 309.

† British and Foreign Medical Review, vol. ii., p. 537.

started, that the mechanical act of vomiting is performed with greater ease in the child than in the adult. If vomiting, then, be induced in a child by mild agents, the whole process is performed with greater facility than by the adult. This, then, is the *first* peculiarity in the effects of Emetics in children.

If, on the other hand, *Emetics of an active and debilitating character, and which produce much nausea, be used, the effects are more uncertain and energetic than in the adult.* The articles to which I allude, are the antimonial emetics, and these accordingly are frequently hazardous to young children, and that, too, when used in doses not peculiarly large. The immortal Sydenham seems to have been fully aware of this fact. In speaking of the continued fever of 1661, 2, 3, and 4, he says, "it has often been a difficulty with me, when called to infants and children in a fever, and observing an emetic indicated, whereby they might have been preserved from danger, that I durst not give them this infusion (*crocus metallorum*), for fear of a bad consequence."* It will be recollected, that at this time the *Ipecacuanha* had not yet been discovered. Dr. Clarke of London states that "a quarter of a grain of Tartrate of Antimony in solution, has been known to excite a vomiting which has ended in the death of a young child, which before was in no danger."† Dr. Armstrong observes that he "has seen again and again, delirium produced by antimonial preparations, given so as to excite the mucous membrane of the stomach and intestinal canal in very young children."‡ Dr. Hamilton advises, that "Tartar Emetic should never be given to infants, for alarming convulsions have followed its use."§ By Mr. Noble of Manchester, a case is related, in which the death of a child, eleven months old, was owing to the effect of antimonial wine given as an emetic.‖ Mr. Wilton (surgeon to the Gloucester Infirmary) has also reported two cases of children, one a year old and the other four years old, which were manifestly destroyed by the use of antimonial wine given for ordinary colds. Slight convulsions—vomiting—diarrhœa—sudden prostration and death took place, notwithstanding the use of cordials and stimulants.¶ I have known a case occurring in this city in which the one thirtieth part of a grain of Tartar Emetic given to a child a year old, laboring under croup, produced such severe and protracted vomiting, together with general prostration, as to require stimulants to save life. Some years since I was called to see a child, about three years old, who had been attacked with scarlet fever. The symptoms at first were mild, and no danger was apprehended in the case, when it was suddenly taken with such alarming symptoms of prostration as to call for a consultation. On inquiry, I found that the attending physician had been prescribing small doses of Tartar Emetic. Notwithstanding the use of stimulants, the child died in an hour or two after I saw it. I then suspected, and have since been confirmed in the correctness of the suspicion, that the medicine had no little agency in bringing about

* The Works of Thomas Sydenham, M.D., with notes by Benj. Rush, M.D., p. 18.

† Commentaries on some of the most important Diseases of Children. By John Clarke, M.D., &c., p. 33.

‡ Lectures by the late John Armstrong, M.D., p. 248.

§ A Treatise on the management of Female Complaints, and of Children in early infancy. By Alex. Hamilton, M.D., p. 353.

‖ Provincial Medical and Surgical Journal. By Robert J. N. Streeten, M.D., 1844, p. 47.

¶ Ibid, p. 204.

the fatal result. The child was naturally delicate, and there certainly was nothing in the symptoms of the case to account for such a termination.

The foregoing facts would seem sufficient to show the *uncertainty* as well as *energy* with which Tartar Emetic operates on the young subject, and the causes are obvious.

In the first place, Tartar Emetic is a powerful sedative, and it is well known, that in early life, the system cannot bear so well the operation of this class of agents, as it can in the adult. A striking illustration of this we have in blood-letting, when carried to the extent of producing syncope. Adults, as a general rule, recover very readily from this state; children, on the contrary, recover very slowly, and there is always more or less danger to life either from convulsions or general prostration, and the same thing holds good in relation to Tartar Emetic. Besides this, Tartar Emetic frequently acts as a local irritant. From the delicacy of the mucous tissue in early life, it is of course more apt to act as such at that period, than it is in advanced years. In both these ways, it is evident that Tartar Emetic must necessarily prove more energetic in its action on the young subject.

In the second place, there is scarcely any medicine, whose action is more decidedly modified by the existing condition of the system than Tartar Emetic. In the ordinary state of the system, it acts as a sedative to the circulation, but at the same time causes, even in very moderate doses, nausea, vomiting, sometimes free purging and diaphoresis. On the other hand, in certain states of the system characterized by high inflammatory action, very large doses and frequently repeated too, may be given without any other effect than that of lessening excitement, and curing the disease. Again, as soon as this state of excitement is subdued under the use of the remedy, all the ordinary physiological effects of it are reproduced. Under these circumstances the article can no longer be tolerated, and the use of it must be relinquished. All these interesting peculiarities are abundantly illustrated in the treatment of pneumonia, as first practised by Rasori in Italy, then by Laennec in France, and afterwards by numerous English and American physicians. Now, if Tartar Emetic is thus modified in the adult by the existing state of the system, how much more readily must all this take place in the young subject. In the successive changes taking place in the child in the different states of disease, from irritation to inflammation, it is hardly possible to estimate the degree of uncertainty attending the operation of this article.

Again, vomiting, we know, depends very much upon the existing condition of the nervous system. In certain conditions of the brain and nerves, it takes place very readily, while in others it is almost impossible to excite it, even by the most powerful means. For example, when the system is under the influence of some narcotic, such as opium, everybody is aware how difficult it is to bring on vomiting; and the same thing occurs in the other morbid states of the nervous system, such as apoplexy, &c. Notwithstanding this, it has been observed, that if under these circumstances, large quantities of Tartar Emetic be given, or if the use of it be too often repeated, although vomiting may not be induced, yet there may remain sensibility enough in the system to enable it to operate as a poison. An interesting case illustrative of this is related by Cloquet, of a person laboring under apoplexy, who received

into his stomach upwards of forty grains of Tartar Emetic, without producing either nausea or vomiting. On dissection, besides the morbid state of the brain, extensive lesions were found in the alimentary canal, which were attributed to the action of the Tartar Emetic retained in the stomach.* Dr. Christison quotes a case from the *Edinburgh Medical and Surgical Journal* (vol. vii., p. 305), in which a scruple of Tartar Emetic was given to a person poisoned by opium, without producing any effect as an emetic; sulphate of zinc was afterwards given and with success. As he recovered from the effects of the opium, he was seized with pains in the stomach and bowels, and with tenesmus, which lasted several days.† Now, it must be evident that in the young subject, all these results are much more likely to occur, than in the adult.

While Tartar Emetic operates in this way on the young subject, Ipecacuanha is never known to be followed by any injurious consequences. To the youngest infant it may be given not only with impunity, but frequently with the greatest benefit. Why this is so, must be manifest, if we reflect for a moment upon the peculiar properties of the two articles. Although both are emetics, yet they differ widely from each other in many important respects. The one is a mild article and limited in its operation to the stomach, upon which it never produces anything like local irritation, even when given in large doses. The other, besides acting as a powerful emetic, is a direct sedative, capable of producing general prostration, and in some cases acting as a local irritant to the stomach and bowels, showing itself in excessive vomiting and diarrhœa.

With regard to the manner in which Tartar Emetic proves so dangerous to infants, it is probably more by its action as a sedative, than as a local irritant. This may be inferred from the symptoms attending those cases, as well as from the appearances on dissection. In the two cases recorded by Mr. Wilton already alluded to, the main symptoms were those of collapse, and on dissection no appearances of inflammation could be detected either in the stomach or intestinal canal. In the case, however, related by Mr. Noble, on dissection, evidences of local inflammation were found in the mucous membrane of the ileum.‡

The foregoing, then, appear to be the important peculiarities in the effects of Emetics on the young subject. While vomiting, induced by ipecacuanha and other mild means, is performed with greater ease than by the adult and does not injuriously affect the system, the vomiting induced by Tartar Emetic is frequently followed by severe symptoms, and sometimes proves fatal.

Now the due understanding of these peculiarities is evidently of the highest importance in the use of Emetics in children, and upon the mind of the student and young practitioner especially, they cannot be too deeply impressed. From the manner in which medicines are treated of in classes, in most of the books of Materia Medica, and in the lectures on that subject, the student is insensibly led into the belief of a greater resemblance between them than really exists in nature, and it is only after he has had some experience of his own, that the error is corrected.

* Paris and Fonblanque, Medical Jurisprudence, vol. ii., p. 280.

† Elements of Medical Jurisprudence. By T. R. Beck, M.D., and J. B. Beck, M.D., vol. ii., p. 586.

‡ Provincial Journal for 1844, p. 48.

He cannot, therefore, too early in his career, learn that all classifications are artificial—not founded in nature—that medicines are arranged in classes, merely for the sake of convenience, not because the articles under each class are precisely alike, but because they resemble each other in some one or more important feature, while in other respects they differ greatly. No two medicines, even in the same class, are precisely similar, and in acquiring a knowledge of them, the study of the points of difference is even more important than those in which they resemble each other.

From the foregoing considerations, it appears to me that some inferences of practical value, to the young practitioner at least, may be deduced.

1. As a general rule we need not be afraid of vomiting the youngest child, provided the means used be mild—such as ipecacuanha, &c. The mere act of vomiting is attended with no danger, while the remedial agency of an emetic is one of great power and value. Besides acting on the stomach, it extends its influence to the mucuous membrane lining the pulmonary organs, promoting secretion in the first place, and then aiding in dislodging and ejecting morbid accumulations; accordingly, in pulmonary affections, there is nothing so efficacious.

2. The vomiting induced by the preparations of antimony ought to be resorted to with great caution in very young children, and should never be used except in those cases where a sedative effect is required, and can be borne with safety. Inflammatory excitement ought then always to be present to justify its use in a young child. Where the object is simply to evacuate the stomach, it ought never to be thought of. In such cases as croup and pneumonic inflammation, it may be justifiably and beneficially used. In those cases it will be found, that the system can bear the sedative influence of the article much better than it can in the ordinary conditions of the system. Even here, however, care should be taken not to push the article too far, as dangerous collapse has been known sometimes to be the result.

3. The *continued use* of Tartar Emetic in young subjects cannot be too specially guarded against. It is in this way, probably, that it is so apt to prove injurious. A single dose, even though it vomits very freely, may be borne with comparative impunity, while the repetition of it may keep up nausea and intestinal irritation, so as to cause injurious prostration. This is very likely to happen in cases of a chronic character, like hooping-cough. Although mild emetics are among our best remedies in this disease, and where the subject is old enough, a single emetic of antimony is frequently exceedingly beneficial, yet the repeated use of antimonial emetics, as is too often the case, appears to me to be a great error in practice. It is not indicated by the nature of the symptoms, and violates a great rule which ought always to be observed in the management of chronic cases, and that is, not to break down unnecessarily the strength of the patient.* Again, in ordinary catarrhal affections in children, a good deal of mischief is frequently done by the continued use of expectorant mixtures containing this active article. The Hive Syrup of Dr. Coxe, which is now in every family, and is

* Dr. Armstrong says that "it is a most notorious fact, that the hooping-cough is far more fatal in London than in the country; and I believe," he adds, "that this arises from the very free use of antimonials in London." Lectures, p. 248.

given on the slightest occasions to infants, without even consulting a physician, has, I am convinced, done a great deal of harm. I say this without wishing to undervalue this preparation. In proper cases it is really a useful article, but persons out of the profession ought to know that its principal efficacy is owing to the quantity of Tartar Emetic which it contains, and that the indiscriminate use of it in cases where mild articles are required, must be injurious.*

4. As the effect of Tartar Emetic on the system cannot always be measured by its emetic operation, even in the adult, this fact ought to serve as a caution against the too common practice of giving repeated doses of it to produce vomiting in children, when they happen to be narcotized. While it fails to vomit, it may still operate as a poison to the system. In all cases of this kind, the proper method of treatment is, not to push the emetic, but to endeavor to restore the sensibility of the patient, and then sometimes vomiting comes on at once.

5. In using Tartar Emetic in children, especial regard should be had to their constitutions. In those naturally delicate, and especially where the scrofulous diathesis exists, it should never be used if it can be avoided. Prostration is much more apt to ensue in them, and where the article is persisted in for any length of time, is sure to do harm. It is in such constitutions, when laboring under hooping-cough, and where the use of this article has been too long continued, that the baneful effects of it are most strikingly observed.

6. It is perhaps hardly necessary to say that if Tartar Emetic be an article of such danger, the younger the subject to whom it is given, the more likely is it to do harm. In children under a year, I should say, as a general rule, it ought never to be used. During that period, the powers of life are too feeble to bear so active a remedy, at the same time that all the beneficial effects of an emetic may be gained from the use of ipecacuanha, or even milder means.

ART. II.—*History of Quarantine in Louisiana from* 1821 *to* 1846. By BENNET DOWLER, M. D., of New Orleans.

BY an act passed in February, 1821, providing "against the introduction of infectious diseases," a Board of Health, composed of the Mayor, five Aldermen, chosen by the Council, and seven "inhabitants," chosen by the Governor and Senate, was constituted and clothed with powers of the most extensive character—powers so unlimited, as to combine legislative, judicial, and executive functions, scarcely warranted by the constitution of any free government. The Board had power to establish

* Every ounce of Coxe's Hive Syrup contains one grain of Tartar Emetic. My friend, Dr. McCready, has communicated to me the particulars of a case in which a child between four and five years of age, laboring under hooping-cough, manifestly sunk under the too frequent use of this article. The exhibition of it had been continued about eight days, when symptoms of intestinal irritation came on, accompanied with great general prostration, which in a few days ended the child's existence.

a police, to cleanse the streets, fill up lots, to employ men, boats, and the like; to limit, under heavy penalties, the number of lodgers in taverns and boarding-houses, according to the "number of cubic toises of air" in each room (all of which was left to its own determination); to license boarding-houses, taverns, and shops, at the Quarantine ground; to impose sundry fines, and to perform many acts incurring pecuniary responsibilities without limit; to appoint seven Health Wardens with the powers of constables, and to require of the same obedience; to buy land, and build on the same, and to publish a daily, detailed account of deaths from May to October, and a weekly account for the residue of the year. The Governor and Senate appointed a Health Officer, and a Resident Physician. The latter, with the Health Officer, before entering on the duties of his office, took an oath to the following effect: "That whatever may be his opinion of the origin or infectious nature of the yellow fever, he will be as vigilant in preventing its introduction as if he knew it to be infectious and of foreign origin, and as careful in detecting and removing the causes which are supposed to produce it in this city, as if he believed it might originate here, and that he will well and truly perform the other duties of his office." He was required to visit, every week, all vessels in port from the first of June to the first of December, and to visit every vessel ascending the river above Fort St. Philip; to act as a justice of the peace; to examine, under oath, into the sanitary condition of all vessels; to give passports, or to detain vessels; to reside constantly at the quarantine ground; to visit the sick; to report to the Board of Health, &c. Quarantine continued as long as the Health Officer pleased, not less, however, than fifteen days after the purification of the vessel, and the recovery of the sick. Vessels were to be cleansed and whitewashed, "not painted or varnished." All vessels arriving from places where "yellow fever or other infectious diseases" had prevailed at the time of sailing, were subject to quarantine of not less than ten days. All vessels whatever, coming from the West Indies, or the continent, between 15° S. Lat. and 24° N. Lat., however healthful the places from which they sailed may have been, were, nevertheless, subject to a quarantine of five days. All vessels bringing putrid matter, vegetable or animal, as hides and the like, were, after the destruction of the same, still liable to ten days' quarantine!

Vessels from any port in Europe, arriving between the first of May and the first of November, bringing more than twenty passengers, commonly called redemptioners, were not, however healthy, permitted to come within three leagues of the city, until after the first of November in any year; the captain or consignee of the vessel was bound to that effect, in the sum of three thousand dollars, as well as to pay the cost of the arrest, and the transportation to the quarantine ground, of any redemptioner found in the city. Any person escaping from quarantine, incurred a fine of five hundred dollars—a vessel one thousand. A fine was imposed, of three hundred dollars, for landing any passenger in the State, without having first submitted to quarantine! Hence it is evident that all vessels were under the necessity of touching at New Orleans, though destined to a distant bay, river, or lake.

Although the Board of Health received no compensation, yet several officers connected with it received salaries. The Board was organized in March, 1821. It located the quarantine ground at the English Turn, and expended more than twenty-two thousand dollars in its operations.

The year 1821 proved very healthful. The Governor in his message of January, 1822, declared that "New Orleans had been for twelve months the healthiest large town in the United States"—a result which he attributed to the quarantine laws. The fact relating to health could not be denied. The explanation was good; the logic was convincing. Contagionists triumphed,—for eight months. The river moved silently along, but wailing was heard in every street. The stars shone brightly, but ten thousand eyes were dim with tears, and red with weeping. Hearse followed hearse, coffin rumbled after coffin. In a few days, the Board had on its black list of yellow-fever victims, eight hundred and two names! In August, 165 died; in September, 532; in October, 665—for the most part from yellow fever.

The Governor had to write another message. But how different! "The city," says Governor Robertson, "has been again visited with the yellow fever. It were an idle waste of time, for me, at least, to inquire into the causes, origin, and nature of this dreadful malady; most of the various opinions with respect to it, seem to be sometimes but too true. We find it in the humid and heated atmosphere of New Orleans —in Pensacola surrounded by arid plains, and fanned by breezes from the sea,—in the comparatively cold regions of the Northern States. For anything that is established to the contrary, it is foreign and imported, or indigenous; and contagious, or not, according to circumstance or accident!

"The State resorted to quarantine under the expectation that it would add to the chances of escape from this dreadful visitation. If this hope be fallacious, if no good effect has been produced, if even a procrastination of its appearance has not resulted from the measure, then should it be abandoned, and our commerce relieved from the expense and inconvenience which it occasions"

The Committee of the House of Representatives on Quarantine Laws, reported, "that during the last year [1822], notwithstanding the *strictest compliance with those laws*, our expectations were frustrated at the very moment when we thought we could indulge the hope of the most complete success. The season was far advanced, and in the month of September this metropolis enjoyed the most perfect health, when the yellow fever made its appearance."

Observe that this report was made by a committee altogether in favor of quarantine. They honestly acknowledged its failure, but recommended its continuance in the most rigid form, because it had not been tried sufficiently long, and because other States had similar regulations! The committee avow their belief in the contagious nature of yellow fever, and even adopt the opinion of the Board of Health, expressive of its importation from Pensacola, through the Bayou St. John.

The Report of the Board of Health to the Legislature is very brief and quite unsatisfactory, not to say absurd. They attack the physicians without ceremony for their disbelief in contagion, and seem to think that in opposing their own opinion to that of the faculty, they have offered proof good enough for anybody: "The opinion that yellow fever is *not contagious, is directly opposed to that of the Board!*" This pride of opinion sought to sustain itself with facts, as will be seen hereafter, and with such facts!

Their Report says, "that up to the end of August, the inhabitants had not suffered from any malady. About the end of that month, the

yellow fever was *imported*, by a vessel from Pensacola, *in a family* named Lynch. This family, of which every member but one fell victims to yellow fever, were lodged in Bienville street, when this disease first manifested itself, and spread to the different parts of this city, striking in its course all unacclimated persons, who were the sole victims of this scourge."

Poor, slandered Pensacola! That sapient maxim of the law—the greater the truth the greater the libel, does not apply in this case, as may be seen in that excellent little work, "The Medical Statistics of the United States' Army," published in 1840. The Report of Assistant Surgeon McMahon shows that, on the first of July, a cargo of fish had reached Pensacola, "*in an unsound state.*" Nothing serious, however, happened for a *month* after, until an "*unsound*" *young lady arrived from New Orleans*, that is, a young lady with black vomit. She was just from *New Orleans*. The contagion must have been imported 'in' her, for the same reason that is given for its "importation in the Lynch family." She died. Soon after, the epidemic broke out in Pensacola,—and about one-fifth of the inhabitants died, in a few days.

According to the logic of the New Orleans Board, if you infect me, I may infect you, though I may be quite sound all the while. New Orleans infects Pensacola, and, Pensacola infects New Orleans, in thirty days after! The one sends a *young lady;* the other sends the *Lynches*, with the *lex talionis*. Sauce for the goose, is sauce for the gander. Havana has blamed Charleston, for nearly a century, in the same amusing manner; and Charleston has *retorted*, perhaps as often. The Board strongly advocated the continuance of quarantine, as did the House of Representatives, by an immense majority, by adopting the Report of its committee. In the meanwhile, the great public, the men of business, felt no sympathy for an ideal, or theoretical dogma, which their own observation contradicted, and which placed them in the situation of those victimized frogs, which being stoned by certain boys, protested against the same, alleging that the pelting of frogs was very amusing to the boys, but death to the frogs, and, consequently, to their business.

On the 23d of January, 1823, a large public meeting took place, in which it was moved and carried, "*that the late epidemic had tested the total inefficiency of the quarantine laws and regulations;* we consider them not only useless, but in the highest degree oppressive and injurious to the commerce of this city; and that application ought to be made to the Legislature for the purpose of having them annulled." A memorial was addressed to the Legislature accordingly for that purpose.

The year 1823 completed its orbit without an epidemic. The contagionists, in the Legislature, and in the city, reigned. In January, 1824, the Governor congratulated the Legislature on "the exemption of the city from contagious diseases." But in November of the same year, he says, "New Orleans has been again subjected to the dreadful scourge." He seems to incline to the doctrine of its domestic origin, and suggests the propriety of bringing the business season to a close by midsummer, and recommends a general flight to the unacclimated, adding, concerning the yellow fever: "Amidst the gloom which its fate inspires, may we not be permitted to indulge the cheering hope that the city is not doomed to suffer always!" Some writer defines *resignation* by the word *despair*. Hate, destiny, and despair, are poor comforters.

The contagionists now began to waver. The Committees in both

Houses of the Legislature disagreed on quarantine, and were discharged from the consideration of the same, on the 30th of November. To disunion, a revolution in opinion succeeded. In less than three months afterwards, an act was passed (February 19, 1845), repealing the quarantine laws of 1821, directing the sale of the grounds belonging to the establishment, and empowering the Governor and the city authorities to establish a sort of *quasi quarantine* at their discretion, but refused them the power to *stop any vessel unless the resident physician* shall determine that the vessel is unfit to enter into port.

Æsculapius was omnipotent. He held the balance of power. He could, in effect, veto, or nullify the acts declaratory of an actual quarantine. His mere theoretical opinion bound commerce in chains, upon rivers, gulphs, and seas. It furled the sail. It put out the steam. Now when a theory is intrinsically visionary or doubtful, indigestion, bad sleep, the last medical romance on contagion, an old prejudice, or a new whim, may turn the scale in the mind of the "Resident Physician." The drama opens. The terrible decree goes forth, and, perish commerce, rather than sacrifice an opinion, made up and expressed to all the world! The ablest contagionist I ever knew, declared most emphatically, that he was so convinced of the truth of the contagiousness of yellow fever, that "he could not believe God nor his angels, were they to proclaim the contrary!" As I have never been able to detect any other fault in this gentleman's character, but the one I mention, I feel no hesitation in alluding to it, as illustrative of that pertinacity of opinion, into which some of the ablest, wisest, and most virtuous men, may fall, when a favorite theory is under consideration. These powers, conferred on the son of Æsculapius, so opposed to public opinion, were not exercised. The quasi-quarantine was a dead letter.

As quarantinists seem to be astrologically, or at least, mystically inclined—as their love of the number FORTY testifies—it might not be improper to inform them, that as soon as all quarantine was removed from New Orleans, the yellow fever began to diminish. For eight years, the mortality never, in any season, equalled that which occurred under the strict quarantine of 1822. During this latter year, nearly half as many died as in the long period intervening between the abolition of the quarantine, and the invasion of the epidemic cholera,—a period of eight years. Had this decrease taken place under a quarantine *régime*, a thousand glittering swords of logic would have leaped forth in its defence: *Salus populi suprema est lex.*

From 1837 to 1843, no less than five epidemics have swept, tornado-like, through the streets of New Orleans. A triennial, or rather a triune epidemic commenced in 1841,—an account of which would fill a volume, and which is here alluded to solely for the purpose of denying that the epidemic was introduced by the ship Talma, and for the purpose of remarking that the false statements concerning the same gave a new impetus to contagion. The story of the Talma has been so often repeated, and printed, too, without contradiction, that it has become *history*. I will not say with Walpole, that "*all history is a lie;*" but, I will say, that I can, and perhaps will, yet, show that in this particular instance it is not true, or, "*is the thing that is not,*" to use the words of Swift.

Early in the year 1844, Professor Carpenter of New Orleans published an essay "to disprove the domestic origin, and to demonstrate

the transmissibility of Yellow Fever." Whether it was the fate of the Talma, or the logic of the Professor, or both, that "infected" the Legislature, cannot be known. But certain it is, that with the suddenness of a thunderclap, on the first of March, 1844, the committee of the House of Representatives brought in a report in favor of establishing quarantine, for the following reasons:—

"I. That yellow fever is invariably known to appear first in the shipping." This is a stereotyped error, as I could prove.

"II. That it never exists in Baton Rouge, Bayou Sara, Natchez, Vicksburg, or any other towns up the river, prior to its breaking out in New Orleans." A half century proves the contrary. It is sufficient to mention Woodville, an inland town in the State of Mississippi, which was desolated for the first time by yellow fever, in 1844. Four-fifths were attacked, and one-sixth of the whole population died, while all other towns, including New Orleans, escaped. But admitting the fact to be true, it proves nothing for or against contagion. If yellow fever be developed during the hot season, it is reasonable to suppose that it would generally begin in Havana or Vera Cruz, before New Orleans; in New Orleans, before Natchez. Frost is not produced by contagion, yet it takes place in a regular progression, in the contrary direction, from North to South. This piece of legislative logic amounts to this: yellow fever happens sooner in some certain latitudes or places, than in other latitudes or places. Here is one of the very few instances in which the meteorology of the seasons throws a light upon etiology. Yellow fever is not deducible from any exactly determined altitude of the quicksilver, but it is connected (no matter how) with the hot season, with urban localities, unseasoned constitutions, and so forth, and, where the seasons, &c., are most advanced, there might yellow fever be expected first, etc.

"III." and "IV." "That it," yellow fever, "has never yet prevailed in the Calaboose," the prison, "nor in the convent in this city. That while the disease prevailed last fall," 1843, "to a considerable extent in Baton Rouge, not one single case occurred in the Penitentiary."

The fact advanced by the committee, concerning the calaboose or old city prison, cannot be questioned; inquiry and observation, during eleven years, and the examination of many state papers, convincing me, that here is, perhaps, the most important fact ever yet made known in relation to the origin, or rather prevention of yellow fever. It is worth more than a thousand volumes of speculation. Many years ago the Governors of the State, in their annual messages, frequently alluded to this fact, as an indubitable proof of the efficiency of quarantine laws! The legislative committee only reiterated an argument, almost as old as the yellow fever of the city. No one, it is supposed, has ever attempted to answer this fallacious application of a fact, which, when duly appreciated, instead of favoring contagion, disproves it altogether. The old Calaboose was in the heart of the city, adjoining the Cathedral, and completely surrounded by the densest population, from which its inmates were separated by nothing but walls and iron bars. This was all the *insulation*, the only *cordon sanitaire*. No fumigation; no quarantine were performed fifty miles from town; communication was free; new prisoners, visitors, officers, clothes, goods, and all the materials required for one or two hundred persons, were daily sent in from the "infected districts," and ought to have been saturated by contagion. The prisoner looked out of his grated windows by day and by night, into the cham-

bers of the dead and dying, in his vicinity. It so happens, that in yellow fever seasons crimes abound, and the prison is usually crowded. The humidity, the lack of cleanliness, added to this crowding, can be proved by official documents, and gave rise to complaints by Governors, and visiting committees, who, nevertheless, assert that the prisoners were in good health! When the Calaboose was removed to the rear of the city, in the swamp-district, on the old Basin, where the hypothetical miasma was so "thick as to be felt," and smelt in imagination, the same exemption followed. In 1837, during an epidemic of the most fatal character ever known in this city, one hundred and eighty persons were confined in this prison. They were mostly young, or middle-aged men, incarcerated for small offences, or vagabondism. In my daily visits, for some weeks, I noticed that they were as badly clothed as Jack Falstaff's regiment: a number of them had no shirts, but pantaloons only: they were nearly all strangers, and just the subjects for the fatal form of yellow fever. Probably one hundred and fifty of these men would have taken the yellow fever, and perhaps fifty would have died, had they been restored to liberty at the beginning of the epidemic. Yet not one died of yellow fever, in all this crowd! Not one was attacked! I do not wish to stop here to offer any explanations, even were I competent. Women who are little exposed to the sun, or to severe exercise, or intemperance and the like, often escape, and rarely die, from yellow fever.

There is, if we may reason from what is known, but one certain method of escaping yellow fever in New Orleans, *incarceration!* That may always fail hereafter, but so far, it has not. It may be that a church, a theatre, or private dwelling, would answer for the same purpose equally well. Here, as is usual, the rich have the advantage. The poor cannot afford the luxury of complete imprisonment during the summer and fall.

The third and fourth conclusions of the legislative committee have, therefore, no connection with this matter, unless it be to show the *incommunicability of yellow fever to persons incarcerated;* though volume after volume has been sent forth, to show that crowding, filth, humidity and the like, incidental to prisons, either originate, or propagate contagion in all cases. Hence, the accounts of the Black Hole of Calcutta, the Old Bailey prison, and Jail Fevers, all go to show that the same ought to happen in New Orleans.* Such is not the fact, and the whole

* The ever blessed and adorable goddess HYGEIA, daughter of Æsculapius, is our witness, that nothing is here intended to favor dirt or dirty people. The goddess of Health doubtless winks at "pious frauds" which have a tendency to promote cleanliness. And there can be no doubt that her father, Æsculapius, was far from being displeased with the New York physicians who invented the doctrine of SEPTON, which reigned at the beginning of the present century, not only in that city, but over half of the world, and which caused soap and water, alkalies and scrub-brooms, liming and white-washing to become fashionable. "Grim Septon" delighted in filth, corruption, and *acidity*, and would only be put *hors de combat* by alkalies. Dr. Mitchill gave accounts of this mischievous personage, in both prose and verse:—

> "Your hands collecting, spread through every clime,
> A fair proportion of attempering LIME.——
> ——The conflict o'er, behold on all sides round,
> In *neutral* chains, the Powers of Mischief bound,
> To lie in durance strict, ten thousand thousand years."

Grim Septon appears to have been as well known in New York, as Achilles was among the Greeks, or Satan among the infernals. It is very remarkable, that *Septon* should call in the aid of *Oxygen* in getting up contagions, or rather miasms:—

> ——"Captivating SEPTON draws
> Unwary OXYGEN to aid his cause."

benefit of the argument is with the anti-contagionists. The daily introduction of new prisoners, of visitors, and of the materials necessary for the use of hundreds of persons, to say nothing of the exposure to the concentrated aerial or volatile streams of contagion incidental to the densest part of the city, ought surely, according to the views of contagionists, to communicate this disease to the prisoners, especially when no precautions are even thought of, as is the case in New Orleans. Whether insulation of the soil, or of the person, or something else, be regarded as the cause of yellow fever, is foreign to our present inquiry. In a word, the very curious fact, that a certain spot in New Orleans is free from yellow fever, where, according to *à priori* reasoning, it ought to appear, affords no proof whatever in favor of the conclusion drawn from the same, by the committee. The House of Representatives of Louisiana refused to pass the quarantine which its committee reported: so it sleeps, like "the mighty Hector's shade."

Such is the legislative history of quarantine from 1821 to 1846, divested of all extraneous matters. I have avoided its early history, as well as that of the epidemics with which it is connected, because the subject is too extensive for this paper, which has been written in consequence of a wish expressed by the Editor of the New York Journal of Medicine, to obtain some information on the quarantine laws of Louisiana. Should this paper prove acceptable to the Editor and readers of the Journal, I will be highly gratified; but justice to myself requires that I should say, that this paper is a sequel to one just written for the August number of the New Orleans Journal of Medicine, entitled, "Researches, historical," etc. The general views of the origin of yellow fever contained in that paper are more or less illustrative of the one here examined. Whoever does me the honor of perusing the one, will, I hope, peruse the other, as they are intimately connected.

The *prestige* of contagion, within the last six years, has influenced the legislature, and most of all the faculty, but not the people. And what does it promise? Under the illusory attempt to exclude yellow fever, see seventy miles below New Orleans, a forest of masts, under the guns of Forts Jackson and St. Philip;—ships chained for forty days; hospitals and hotels, towering against the skies, for the sick and the well; wharves and warehouses, for unlading vessels; blankets and beds, boxes and bales, opened, fumigated, disinfected; swarms of officers; and an expenditure of millions! If New Orleans closes the door to all nations, will not all nations close the door to her? Taking for our guide the published views of the latest writers on quarantine (who carry their ultraism beyond all precedent), no vessel can be, like Cæsar's wife, *above suspicion*. They tell us, that, however healthy may be the crew and passengers, the air, sealed up in the hold, is saturated with contagion; no cleansing, no fumigation, no ventilation, will suffice, without unlading, etc. No vessel can dip her sails within the tropics—none can come from a yellow fever country, without being *suspected*, and *all the suspected* must undergo quarantine, until the infected air is cured or killed,—a fact which can only be known to the medical astrologers *themselves*.

Whenever these absurd visions of the new contagionists become actualized, New Orleans will have only an historical existence. Her epitaph will have been written—*New Orleans was!*

A true history of our epidemics would show, that the *first cases* of yellow fever do not always, nor even frequently, appear in the shipping.

If we adopt the logic of the contagionists, it would seem that the disease is not imported from the West Indies, *but from the Western and Northern States;* because the flat boatmen, and others that have just descended the river, are, generally, the first in whom the malady is seen, and, therefore, they must be its importers. Theory requires the yellow fever to begin in, and to spread progressively from, ships that have recently arrived, from places where yellow fever was prevalent. The villain, Procrustes, cut off all the legs which were longer, and stretched those which were shorter than his bed. Such was his *theory* of length; and such is the *prestige* of contagionists when facts oppose.

Beginning with 1819, I offer two or more of the *first cases* of yellow fever, for twenty-one consecutive, though not all epidemic, years, in illustration of this species of evidence. The first cases, almost invariably, go to the Hospital, where records are kept by salaried clerks. I could have multiplied the cases ten fold, but deem it unnecessary. The three last epidemics I have not touched, as they would occupy too much room.

No class of yellow-fever patients are so quickly, or so generally sent to the Hospital, as those on shipboard. It is, therefore, a matter of great surprise, that so few persons from ships are found among the *first attacked*, and the more so as scarcely any of the crews of ships are acclimated. The following list will show, that only about three in a hundred are sent from ships, either as pay or charity patients, in the early part of the epidemics. According to the theory of importation, *the ships ought to furnish nearly all of the first cases.*

Year.	Names.	Place of Nativity.	Last from.
1819.	Gifford,	Wilmington, Del.	Philadelphia.
	Sandal,	Sweden.	do.
	Leger,	France.	Attakapas, La.
1820.	Wood,	Alexandria, La.	Alexandria, La.
	Woosman,	Amsterdam.	Amsterdam.
	Ornd,	New York.	London.
	Hough,	Portland, Me.	Boston.
1821.	Burns,	Ireland.	New York.
	Gildan,	do.	Baltimore.
	Jacob,	Philadelphia,	Philadelphia.
1822.	Jack,	Ireland.	Havana.
	Cohan,	do.	Louisiana.
	Foley,	do.	do.
	Miller,	Switzerland.	Mississippi.
1823.	Holden,	Ireland.	New Orleans.
	Hall,*	Maryland.	Red River, La.
1824.	Prior,	Sweden.	Ship, Cail.
	Hosman,	Virginia.	Steamboat Reigo.
	Hays,	Ireland.	New Orleans.
1825.	Allen,	Pennsylvania.	Steamboat.
	Harris,	North Carolina.	Keelboat.
	Murphy,	———.	Terre Boeuf, La.
1826.	Miller,	Ohio.	
	Kennedy,	Ireland.	
	Williams,	Connecticut.	

* There were but two cases in the hospital this year. The physician who attended the lad, Hall (aged 17), made the following remarkakle note, "a well marked case of yellow fever, removed to the hospital with *black vomit*. Taken out of a flatboat, laden with hogs, at the mouth of the Red River, by the Steamboat Eagle." Hall recovered! No epidemic followed! He took the disease at the mouth of Red River!

Year.	Names.	Place of Nativity.	Last from.
1827.	Crosgrove,	Ireland.	
	Kirk,	England.	Brig Majesty.
	Hay,	do.	Steamboat Florida.
1828.	Handly,	do.	Havana.
	Lighner,	Germany.	Vera Cruz.
	Kingwell,	England.	Steamboat Ivanhoe.
1829.	Bird,	Pennsylvania.	Cincinnati.
	Lepenard,	New York.	Havana.
	Hereford,	Virginia.	Cincinnati.
1830.	Boylen,	Ireland.	
	Delong,	Virginia.	
1831.	Cavener,*	Ireland.	
	Wainwright,	North Carolina.	
	Times,†	Canada.	
	Deen,‡	Ireland.	
1832.	Cousin,	France.	
	Rapp,	Germany.	
	Cassady,	Ireland.	Wheeling, Va.
1833.	Maily,	Ireland.	St. Louis, Mo.
	Grant,	Virginia.	
	Scales,	Georgia.	
1834.	Delilah D.,	Kentucky.	Louisville, Ky.
	Tracy,	Ireland.	London.
	Snow,	Sweden.	New York.
	Wilson,	Scotland.	Texas.
1835.	Graham,	Pennsylvania,	Pittsburgh.
	Ferral,	Genoa.	Vera Cruz.
	Williams,	Denmark.	New York.
	M'Kenny,	New York.	Bayou Sara, La.
1836.	Clayton,‖	Ireland.	Mobile.
	Mayer,	Germany.	Tampico.
	Farland,	Scotland.	Pensacola.
	Guilmen,	Nantes.	France.
	Brinkly,	Pennsylvania.	Ohio.
	Collins,	Virginia.	Texas.

Year.	Name.	Place of Nativity.	Place last from.	Length of Residence in N. Orleans.
1837.	Meras,	Italy,	New York.	2 months.
	Windham,	South Carolina,	North Alabama.	24 days.
	Gohen,	France,		1 year.
	Mrs. Hairne,		Texas.	5 months.
	Sidia,	Sicily,		4 months.
1838.	Mrs. Cody,			
	Curren,	Pennsylvania,	Albany, N. Y.	3 months.
	Hemzog,	Switzerland,	Havre.	3 weeks.
1839.	Pew,	Kentucky,	Natchez.	
	Chillis,	Italy,	Baltimore.	6 months.
	Kidney,	Ireland,	Cork.	2 years.
	Hober & wife,	Switzerland,	Philadelphia.	5 months.

* The elder Dr. Ker made this note: "The first case of the kind this season."

† Dr. Ker's note declared that the dissection proved this to be a genuine case of yellow fever.

‡ I find no other cases this year. Three deaths; Deen, recovered. Were not four cases sufficient to have kindled up an epidemic on the principle of contagion? The same question applies to many other years, in which a very few, but malignant cases occur, in different parts of the city.

‖ This man was not sent to the hospital. I was called in during the last stage. Probably ten or fifteen died during the year, in the city and hospital.

ART. III.—*Case of Tetanus arising from intestinal irritation; cured by large doses of Opium, with remarks on Allopathy, Homœopathy, &c.* By J. B. ZABRISKIE, M. D., Physician to the Kings' County Almshouse, Flatbush, L. I.

CATHARINE KANE, aged 34, of bilious temperament, born in Ireland, entered the house afflicted with this frightful disease, on the 17th of October, 1843, in the form of opisthotonos, accompanied with violent spasms. She complained every five minutes of exceedingly violent paroxysms of severe pain, at the lower part of the sternum, accompanied with a rigid contraction of nearly every muscle in the body. The head was powerfully retracted, the body considerably recurved, and the legs and arms forcibly extended; the feet being extended nearly in a straight line with the legs, and all rigid; the abdominal muscles were perfectly stiff and hard. During the intervals between the paroxysms, the muscles of the trunk and extremities were but slightly relaxed, while those of the jaws remained firmly contracted. Her respiration was hurried, deglutition extremely difficult; the skin was rather above the natural temperature, very dry and harsh; the pulse during the paroxysms was small and irregular, but in the remissions it was quick, full, and of moderate strength. Her brow was constantly knit, and her countenance expressive of the most excruciating pain. The powers of thought and sensation were unimpaired, and she could speak distinctly, without great difficulty.

She said that before this sickness she had always enjoyed good health, although there was an ulcer on her leg, which she stated had been there two years. She says that about a fortnight ago, she had nausea, headache, and felt otherwise quite unwell. For this she took a dose of medicine, probably calomel and jalap. After taking the powder, she continued washing the greater part of the day, her clothes being wet with cold water most of the time. She took cold, and was soon seized with violent pains in the bowels, which became very severe. She said "she was pulled to pieces," and at length her neck and jaws became stiff. She had had no evacuation from her bowels since the powder had operated, nearly two weeks ago; she had taken no nourishment during the last week, nor slept at all during the same time. She wanted nothing to be done for her, saying that she knew she must die very soon, and obstinately resisted the application of cups and other remedial measures to the epigastrium, abdomen or spine, which was proposed, only asking for laudanum to ease her horrible pain. She was put into a warm bath, and twenty grains of calomel, with four drops of castor oil, were administered internally.

17*th*. The warm bath appeared to afford some relief, but the purgative produced no effect. Spasms are very frequent; ordered a teaspoonful of tinct. opii to be given every hour.

18*th*. She has taken the tinct. opii, in teaspoonful doses, every hour through the night, but with little effect. Spasms very severe every fifteen minutes, bowels obstinately constipated. Forty grains of calomel were then given with six drops of croton oil, to be followed by an enema composed of Ol. ricini ʒ ij., ol. terebinth. ʒ j, aquæ. 0iv.—3 P. M. The purgative has produced no effect on her bowels, but increases the gastric distress, and she obstinately refuses all medicines except opiates; ordered tinct. opii half an ounce.

19*th*. Spasms still continue and are very violent. She begs for laudanum to relieve her pain. This was ordered in doses of half an ounce every hour until she be relieved, and an enema ordered for her bowels.

20*th*. After taking six doses of the tinct. opii, she experienced a temporary abatement of her pain and spasms, and she has had some sleep. The bowels have not yet been moved; ordered the same treatment.

21*st*. The opium taken yesterday, has relieved her very much, and she has passed a comfortable night. The spasms have again returned this morning, but they are not as frequent nor as violent. The tinct. opii was given in the same doses, but less frequently, and an enema, composed of two quarts of a strong solution of common salt, was thrown into the rectum.

22*d*. She feels better. The injection produced the desired effect, and brought away an enormous quantity of dark-colored and extremely fœtid matter, which gave her great and immediate relief. The rigidity has considerably diminished, the muscles of the jaws are slightly relaxed between the spasms, which now are slight, and at intervals of half an hour and sometimes longer; ordered a single dose of tinct. opii ʒss., and the enema to be repeated.

23*d*. She appears much better. The spasms have ceased. The muscles have still considerable stiffness, but appear to be gradually relaxing into their natural state. The skin is soft and perspiring, the pulse full, soft and regular, the countenance less expressive of pain.

From this time she gradually recovered under the use of laxatives, mild tonics, and opiates.

About a week after the spasms had left her she was again seized with spasms, and the same pains in the abdomen, and at the lower part of the sternum, but not to the extent that they had reached before, and without the tetanic contortions. The nurse immediately gave her half an ounce of laudanum, and repeated it in an hour. This produced complete narcosis, with stupor and all the other symptoms of poisoning by opium, requiring an emetic, the use of coffee and acids, to relieve this state.

This was evidently idiopathic tetanus, caused by intestinal irritation. The obstinate constipation, which resisted the most powerful purgatives and enemata, could be overcome only when the spasm existing in the intestines was subdued by the opium, and the relief which followed the evacuation of the enormous and very offensive mass of fæces, was immediate, and more striking than anything which occurred in the treatment of the case.

The power of intense pain or spasm to overcome the effects of opium, is well shown in this case. On the 19th and 20th, three ounces of tinct. opii produced very little effect, and none upon the cerebrum; while on the 30th, during the relapse, one third of the same quantity almost proved fatal, producing the symptoms of poisoning by opium.

Allow me to append a few remarks, suggested by a perusal of the 12th article in the July number of your valuable Periodical.

The New York Journal of Medicine is the advocate of no particular system of Medicine, but has for its object the advancement of medical science in general, and the investigation of truth. It was for the pur-

pose of promoting this object, that the above mentioned article was written and published. There is however in this article, one objectionable point, against the use of which, in the pages of this Journal, we hereby protest,—it is the use of the term Allopathy in the homœopathic sense. Homœopathic practitioners, it is well known, apply the term Allopathy to all other systems of practice except their own, in the same way as those who call themselves botanic, give to all others the appellation of mineral physicians. Now, we have no disposition to dispute the right which any sect or the abettors of any system have to give themselves any name whatever, but the application of the term allopathy to all others, not only shows no small share of modesty on the part of the homœopaths, but the term is incorrect, as not showing the distinctive character of their system, without taking into consideration the incongruity of grouping together, under one common term, systems the most opposite in principle, and having little or nothing in common.

The term homœopathy does not express the distinctive character of their practice, as the greater part of the practice of every physician is homœopathic, in the true meaning of the word. As the great mass of diseases consist of inflammations or irritations of some particular organs, the medicines used to combat them are those which act on these organs, or, in other words, which irritate them. Does not almost every physician treat diarrhœa with laxatives, and give emetics to relieve nausea? Do not all use expectorants in diseases of the chest, while stramonium, conium, digitalis, and opium are used in mania. In urethritis, nitrate of potash, balsam of copaiba, oil of turpentine, and other articles which irritate the urethra, are the most common remedies, and nitrate of silver is used for the inflammation of almost every mucous surface, whenever it is possible to apply it. Acetate of lead, sulphate of zinc, sulphate of copper, nitrate of silver and other caustics, are universally used as collyria in ophthalmia. Alcohol and spirits of turpentine, are common applications to burns, while spirits, nitrate of silver, mercurial ointment, and sometimes emplastrum cantharidis, are used in erysipelas.

The great characteristic, then, of homœopathic practice, is not in its homœopathy, but in the administration of medicines in insensible doses.

With regard to the success of Dr. Henderson's practice, we have only one remark to make. If, as Dr. Forbes observes, M. Magendie, and many other of the most celebrated French physicians, cure most acute diseases by the use of gum water, without any other internal medicines, is it surprising that a homœopath should produce a similar effect, by adding to the drinks of his patient the millionth part of a grain of any substance whatever? Does not the mesmeriser produce the same effect with his manipulations, the North American Indian by his pow-wow, and antic gesticulations, the hydropath by his wet sheet, and the Thompsonian by his steam? All this shows how great is the effect of the imagination in the cure of diseases, and that we still very imperfectly understand the functions of that curious and powerful nervous system, which pervades, and to so great a degree controls, the animal frame.

Flatbush, July 18, 1846.

ART. IV.—*On a new species of Urinary Concretion.* By JOHN L. LE CONTE, M. D., of New York.

THE experiments detailed in the following paper were undertaken last winter in connection with the subject chosen for an inaugural dissertation. In consequence of the numerous interruptions attendant on a course of medical studies, they were left in a very crude and imperfect condition, and it was considered advisable to postpone any public account of them, until more abundant leisure should enable the writer to recur to the subject. Other pursuits have caused him to abandon his original intention, and, as there is no immediate prospect of his continuing his investigation, the notes of the original experiments are here submitted to the indulgence of chemists and pathologists.

The writer is induced to take this step in the hope that, when attention is once called to this product of morbid action, it will not be long before other examples occur. These, it is to be expected, will fall into the hands of individuals more skilled than himself in the ultimate analysis of organic compounds, and when the history of the case can be known, will form a very important addition to our knowledge of vital chemistry.

The specimen from which the following description is made, was detected by me, about two years ago, in the cabinet of Prof. W. Parker, M.D., of this city. This gentleman, with a rare liberality, immediately placed at my disposal abundant means of making a chemical examination; the material, however, remained untouched until December, 1845, when the series of experiments, detailed below, was instituted.

The calculus, when first seen by me, consisted of several fragments, from which it appeared that its entire figure was a tolerably perfect ellipsoid: the largest fragment is an almost exact quarter of the original mass, and gives the following semi-diameters: 1.20, .83, and 1.00 inch. It contains as a nucleus a small piece of slate pencil, which shows evident marks of a knife. Its structure is concentric,—in some places compact, in others spongy. It is of a pale ochry brown color, and assumes a waxy lustre on friction, which also developes a slight musky odor. Exposed to heat, it fuses readily, evolving a fragrant balsamic odor; at a higher temperature it inflames, and burns with much smoke. It dissolves with great ease in potassa, forming a brown solution; in nitric acid with slight effervescence, producing a fine yellow color; when carefully heated with sulphuric acid, it gives a bright purple tint. It dissolves readily in boiling alcohol and ether. By these characters it can readily be distinguished from all other urinary concretions.

1. A portion of the calculus was digested in hydrochloric acid; it did not dissolve, but the acid was slightly tinged; the substance taken up appeared to be identical with the oxid of omichmyle, the coloring matter of urine.

2. Another portion was digested with solution of potassa; it speedily dissolved, and formed a brown yellow solution which frothed on agitation. During the solution it gave off a strong odor resembling that of ambergris.

3. Diluted hydrochloric acid was added to the solution (2) and produced an abundant pale yellow precipitate; this was well washed, and the liquid—

4. —passed through the filter was pale yellow. On the addition of the hydrochloric acid, the musky odor disappeared, and was replaced by a smell of honey; this last was probably owing to the mucus contained in the calculus; for mucus, as Chaptal observed, gives a smell resembling honey, when treated with potassa and hydrochloric acid.

5. The precipitate (3) was again dissolved in potassa, and gave a solution similar to (2). It was decomposed by hydrochloric acid, and the precipitate well washed; the residual liquid was colorless, and contained only a trace of organic matter. From its appearance, and properties, intermediate between a fat and a resin, it was named alipharic* acid.

6. The solution (4) was evaporated, and found to contain a very small quantity of coloring matter derived from the urine.

7. A third portion of the calculus was boiled in strong alcohol; it was dissolved, with the exception of a few flocks of mucus. The solution would pass through the filter only while heated. As it cooled, it deposited some alipharic acid, while the coloring matter, and a considerable portion of the alipharic acid, remained in solution.

Alipharic acid forms a pale-brown, very bulky powder, which adheres to everything with which it comes in contact. Its structure, when examined by the microscope, is perfectly amorphous, nor have any attempts yet made to procure it in a crystalline form been successful. It is deposited as a thin coating resembling varnish, when the alcohol or ethereal solution is evaporated. At a temperature of about 250° F. it freezes without decomposition into a brown resinous mass, which splits on cooling: at a higher temperature it is decomposed with a peculiar odor resembling benzoin, leaving a voluminous carbon. The products of this decomposition have not yet been examined.

Salts of Alipharic Acid.

Alipharic acid dissolves readily in the alkalies, forming yellowish-brown solutions, without any alkaline re-action, which possess a nauseous, and faintly bitter taste. These solutions are decomposed by acids, which precipitate the alipharic acid as a crude mass. On evaporation, the salts are left in a transparent gummy state, without the slightest appearance of crystallization.

Alipharate of Baryta is formed when nitrate of baryta is mingled with alipharate of potassa; but as it is somewhat soluble in water, no precipitate, appears, unless the solutions be concentrated. It may also be formed by boiling alipharic acid with baryta water, and forms a white precipitate, which is decomposed by acids.

Alipharate of Lead falls a yellowish-white flocculent precipitate, when acetate of lead and alipharate of potassa are mixed.

Alipharate of Potash heated with hydrate of potash gives no trace of ammonia, the acid is therefore free from nitrogen.

Action of Nitric Acid.

When alipharic acid is placed in contact with nitric, it softens and becomes semi-transparent; if heated, it dissolves with disengagement of red fumes, forming a bright orange solution, which becomes turbid on cooling; as the acid evaporates, a fusible yellow substance collects on the surface. When water is added to the solution a still further quantity

* αλειφαρ, adeps.

is obtained; it was washed, and collected on a filter. This is Nitro-alipharic acid.

Nitro-alipharic acid is a bright yellow, perfectly amorphous powder, slightly soluble in water, more easily in alcohol and ether. When heated in a water bath it fuses into a yellow liquid, which congeals into a resinous mass resembling gamboge. While soft, it can be drawn into threads.

This acid dissolves easily in potassa and ammonia, with a musky odor, forming a rich orange-colored solution; on evaporation the salts are left as gummy masses. The solution gives no precipitate with nitrate of baryta, but a very voluminous bright yellow one with acetate of lead.

Concentrated sulphuric acid colors it brown; by the addition of water it is separated again, mixed with a small proportion of carbon. The nitro-alipharic acid burns with a bright yellow flame, with no smoke; when heated with hydrate of potash it gave traces of ammonia, and therefore contains nitrogen derived from the nitric acid used in preparing it.

Action of Sulphuric Acid.

Alipharic acid, heated with sulphuric acid, is dissolved with slight evolution of sulphurous acid, forming a dark brown fluid, from which water separates a greenish brown, soft, resinous mass, which assumes a fine purple color when exposed to a gentle heat. It dissolves easily in alcohol and ether.

At the time the above experiments were made, the specimen in Dr. Parker's cabinet was believed to be entirely unique; but in the Chemical Gazette published Nov. 15th, 1845, there is an extract from the Archiv. für Physiolog. und Pathol. Chem., 1845, which contains an account of a substance extracted from the bladder of a patient by Dr. Heller, which he names Urosteatite. This substance has many of the properties of alipharic acid, and also gives a balsamic odor when heated. It assumes a purple color when heated, which fact was probably owing to some change exerted by the sulphuric acid used in its extraction. This would also account for several other slight differences in the properties of the two substances. There is a very strong probability that they will eventually prove identical. The disease with which Dr. Heller's patient was affected is not apparent, but the treatment employed was the administration of carbonate of soda, under the use of which a small calculus of urosteatite was voided. From the above mentioned work is taken the following description and analysis of the urine of Dr. Heller's patient, as they may lead to the discovery of similar cases:

"The urine, before the use of the carbonate of soda, was of a pale yellow, whey-like color, and inodorous It was slightly turbid, and contained a deposit of large crystals of ammonio-phosphate of magnesia, which speedily subsided. By the microscope, globules of fat were perceptible; the reaction was neutral, and the sp. grav. 1017.5. Ammonia caused a copious deposit of earthy phosphates, without altering its color. No uric acid could be detected in it; it contained in 1000 parts:

Water, ...	965.800
Solids, ...	34.200

Urea,	12.531
Fat,	.320
Extractive and Muriate of Ammonia,	8.569
Fixed salts,	12.680
	34.200

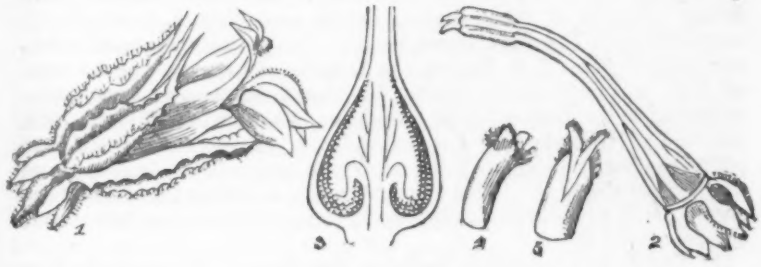
For further details, the reader is referred to the *Chem. Gaz.* for Nov. 15, 1845.

ART. V.—*Indigenous Medical Botany, No.* 3. By STEPHEN W. WILLIAMS, M.D., Late Professor of Materia Medica, Deerfield, Massachusetts.

THE LOBELIAS.

THE genus of plants called Lobelia belongs to the 5th class and 1st order of the Linnæan system, and to the natural order Lobeliaceæ, or the Lobeliads; which, according to Lindley, embraces 27 genera and 375 species.

The *Lobeliads* are Herbaceous plants or shrubs, with milky juice. DIAGNOSIS: *Campanal Exogens, with a two or more celled ovary, syngenesious anthers, a stigma surrounded by hairs, and a valvate, irregular corolla.*



LOBELIA SYPHILITICA.

1. An entire Flower.—2. The Stamens.—3. Perpendicular Section of the Ovary.—4 and 5. Stigmas.

The leaves are alternate, without stipules. Flowers axillary or terminal, calyx superior, five lobed or entire. Corolla monopetalous, in æstivation somewhat valvate, irregular, inserted in the calyx, alternately with the lobes of the corolla; anthers cohering; pollen oval; ovary inferior, with from one to three cells; ovules very numerous, either attached to the axis, or parietal; style simple, stigma surrounded with a cup-like fringe. Fruit capsular, one or more celled, many-seeded, deliscing at the apex. Seeds attached either to the lining or the axis of the pericarp; embryo straight, in the axis of the fleshy albumen; radicle longer than the cotyledons, pointing to the hilum.

The plants of this Order at first sight appear to be very different from *Compositæ*, but they in fact participate in all the analogies of *Bellworts*, and perhaps are yet more nearly related to *Compositæ* even than that order, especially in their syngenesious anthers, and in the irregu-

larity of their corolla, which is split so that the segments cohere on one side, like the five segments which make up the legulate floret of a Composite. The stigma is surrounded by hairs, which are probably analogous to the collectors of Bellworts, to which *Lobeliads* approach closely, as well as to *Goodeniads*, whose indersium and induplicate corolla offer the main features of distinction. The *Clintoneæ* are remarkable for a one-celled ovary with parietal placentæ; a few species have polypetalous flowers, and one species of Lobelia is said to be diœcious. Unlike *Bellworts*, these seem to prefer countries, within or upon the border of the tropics, to such as have a colder character. We find them abounding in the West Indies, Brazil, the Himalayan region, the Cape of Good Hope, and the Sandwich Islands; and they are not uncommon in Chili and New Holland. All the species are dangerous or suspicious, in consequence of the excessive acridity of their milk. *Siphocampylus Caoutchouc* is so named by the inhabitants of Popayan from the tenacity of its juice. *Tupa Feuillæi* yields a dangerous poison in Chili. *Isotoma Longiflora*, a native of some of the West India Islands, is one of the most venomous of plants; the Spanish Americans call it *Prehenta Cavallos*, because it proves fatal to horses that eat it, swelling them until they burst; taken internally, it acts as a violent cathartic, the effects of which no remedy can assuage, and which end in death; the leaves are active vesicants.—*Lindley.*

According to the new Edinburgh Encyclopædia, ninety-five species of Lobelia are known; but one hundred and fifty according to the Encyclopædia Americana, fifteen of which, at least, grow in the United States. Several of these, such as *Lobelia syphilitica*, *L. cardinalis*, *L. claytoniana* and *L. inflata*, are medicinal. This genus of plants, of which, according to Wm. B. S. Barton, the *Scævola* of Linnæus was the original type, was dedicated by Father Plumier to Mathias de Lobel, who, according to the Encyclopædia Americana, was born at Lille in 1538, and died at Highgate, near London, in 1616. After him this family of plants has been named. All the numerous species are poisonous, some of them peculiarly so. This genus of plants is distinguished by labiate corolla, with five stamens united in the form of a tube or cylinder, as in the compound flowers.

1. The *Lobelia syphilitica* has large blue flowers, growing in the form of a spike; it is very common by the roadside, and in the woods. It is a very acrid and nauseous plant, yielding a milky fluid, which was formerly deemed diuretic, cathartic, emetic, and anti-syphilitic. It derived its name *syphilitica* from its supposed efficacy in the cure of syphilis, as pointed out by the Indians of North America, who thought it to be almost a specific in that disease. They kept it secret for a long while, and afterwards sold it to Sir William Johnson, and from him it has been copied by various authors, almost to the present time. Those who are curious in investigating the subject will find a full account of it in the American Medical Lexicon, New York, 1811. Of late, however, it does not answer the high encomiums which have been bestowed upon it, although not destitute of power, as it contains, according to an analysis of it in France, a new substance similar to *butter*, *sugar*, *mucilage*, *&c.*, besides traces of *amaine*, *silex*, *iron*, *muriate and phosphate of lime*, *lignin*, &c. (Rafinesque). Its properties are somewhat similar to *Lobelia inflata*, though it is a by far less active poison.

2. The *Lobelia cardinalis*, or cardinal lobelia, or cardinal flower, has

most splendid scarlet blossoms, and is one of the most beautiful plants in the vegetable kingdom. It grows in low grounds, along the banks of streams, throughout the United States. On account of the great beauty and brilliancy of its flowers it has been transplanted into European gardens, and it has been a great favorite there among floriculturists for more than two centuries. By the Cherokee Indians the root has been considered anthelmintic, and similar in its properties to the Carolina pink root. They also use it as an anti-syphilitic, but, like the former plant, it is not much used for this purpose by regular practitioners. This, too, has similar properties with the *Lobelia inflata*, but it is also less poisonous.

3. The *Lobelia claytoniana* is thought by many to be diuretic, but I cannot learn that it is much used in medicine.

4. *Lobelia inflata*. I am sensible that much has been said upon the subject of this plant, and that it may appear to some to be a hackneyed one, and that any further observations upon it may be irrelevant, and perhaps impertinent; but in a series of essays upon medical botany, I do not feel disposed to pass over an article which is now so much employed both for weal or for woe. I am far, also, from believing that all has been said upon it which may be said with profit and advantage. Many erroneous notions are still prevalent upon it, and much discrepancy of opinion prevails among regular physicians, in relation to the medical properties of this "*divine remedy*" of the Thomsonians. While some physicians refuse to employ it at all, on account of the extravagant encomiums and empirical abuse of it by an illiterate set of pretenders, others agree that, in certain complaints, under judicious management, it is a valuable medicinal agent. My object, in my remarks upon this subject, is to endeavor to rescue it from the undeserved praise which is bestowed upon it by charlatans, and to place it in that rank in the Materia Medica, to which it justly belongs. If in my own remarks I should appear to be severe upon the worshippers of the "divine remedy," it is because I hold uncompromising and never-ending hostility with every species of quackery and imposture. The regular, scientific physician can hold no communion with any order of self-dubbed physicians, or with any of the *pretenders* to knowledge in our noble profession. None but regularly bred, thoroughly educated physicians, who make no pretensions to mysticism, can claim fellowship with the learned and honorable in our profession.

The true English name which I would wish to have affixed to the *Lobelia inflata*, is *Devil's pepper;* called also *Indian tobacco*, *Emetic weed*, *Poke weed*, *Asthma weed*, *&c.* The appropriate English name of *Devil's pepper*, I believe, was given to it by my late father, Dr. William S. Williams, of Deerfield. He was riding with a pupil about 45 years ago, when he observed a specimen of this plant. His pupil asked him if he was acquainted with the properties of it. Upon informing him that he was not, he requested him to taste it, which he did. He just bit one of the capsules, and observed that it tasted insipid as water. His pupil requested him to chew it fine, which created such a long continued, burning sensation in his mouth, that he called it *Devil's pepper*, by which name it has been known in this region ever since. The Devil's pepper is to be found all over the United States, in the fields, and in the woods, and by the roadsides; it blossoms from July to November. The capsule is two celled, full of very minute seeds.

When eaten by cattle or horses, it produces the *slivers* (commonly called slobbers), from its salivating them like mercury in the human constitution, and hence it may produce the same effect in men, for it is in some respects a more powerful and dangerous medicine than calomel.

The founder of the steaming system of medicine, if system it may be called, Samuel Thomson, according to Rafinesque, claims in his Guide to have discovered the virtues of this plant, not far from the year 1790. But the Indians were previously well acquainted with some of its properties; it was one of their puke-weeds used to cleanse the stomach and head in their great councils. Thomson depends almost altogether upon it, in his new and singular practice of medicine, borrowed chiefly from the puking and steaming practice of the Indian tribes. (*Rafinesque.*) The Rev. Dr. Cutler, in a memoir upon the medicinal plants of Massachusetts, published in the Transactions of the American Academy of Arts and Sciences, nearly as long ago, I think, for the volume is not now before me, as the year 1790, speaks of the great benefit he received from taking a saturated tincture of the leaves of the plant in a dose of a tablespoonful, two or three times, till vomiting was induced, in a case of asthma. Other physicians since then, have been equally successful in this complaint, with less doses. When it is given, however, for the purpose of inducing vomiting, if that effect is not speedily induced, indescribable distress, and even death, have frequently been occasioned by it. I consider it to be more efficacious in asthma than in almost any other affection. In combination with equal parts of tincture of myrrh, and of tincture of digitalis, I have frequently given the tincture of it with success, in teaspoonful doses, in cases of asthma. I once knew a patient, not my own, a most valuable member of society, most severely injured by taking a larger dose than a teaspoonful. I doubt whether he ever recovered from the effects of it. At any rate, he never recovered from that sickness. It is sometimes used by regular physicians, in spasmodic cough, tetanus, strangulated hernia, spasmodic affections generally, and several other complaints. The Thomsonians use it almost indiscriminately, in almost all the complaints to which the human frame is liable.

Properties of the Lobelia inflata.—Orfila, Beck, Bigelow, Barton, Lindley, Pereira, and others of the best medical writers, who have deeply investigated the subject, agree that it is a *violent irritative, acrid, and narcotic poison.* It is a violent emetic, and long, severe, and distressing sickness often follows the use of it. Rafinesque says, "it is one of the most powerful narcotic, expectorant, anti-spasmodic, sudorific, diuretic, and sialogogue vegetables. In its effects it acts very much like tobacco, but the action is more diffusible, speedy and short, visibly affecting even those who are accustomed to tobacco. In large doses, it is a deadly narcotic, like tobacco and henbane, producing alarming effects, continued vomiting, trembling, cold sweats, and even death. It appears to act on the brain rather than on the stomach, as usual with narcotics, and is, therefore, dangerous in practice, unless *prescribed with great care and caution.* In strong doses it produces great relaxation, giddiness, headache, debility and perspiration; in moderate doses it produces sickness in the stomach, and vomiting; a prickly sensation through the whole system, acting, therefore, on the nervous system, it being a very diffusible stimulant. The practice of Thomson to use it in everything—fevers, consumption, measles, jaundice, &c, is pre-

posterous. It is not even a proper emetic in common use, as we have so many much milder, and therefore preferable in most cases. In consumption it is baneful, because it prostrates the patient without relieving the symptoms. It is, however, the base of many quack medicines for consumption, which are violent and dangerous; they are commonly called Indian specifics, the Indians having no specific for the disease, but merely palliatives. One single grain of it is sometimes sufficient to produce an emetic effect."

One word in relation to employing Indians, and Indian remedies, for the cure of the complicated diseases of civilisation. All their diseases are simple, and are cured by simple remedies. They know nothing of the diseases induced by the effeminacy and luxury of civilisation, and consequently are not fitted to prescribe for them.*

Lindley, one of the most competent foreign writers, calls it an acrid narcotic, and most powerful emetic. In doses of a teaspoonful of the seed and leaves, in which quantity irregular practitioners have been in the habit of giving it, it frequently, he says, proves fatal in five or six hours. It has been used instead of tobacco, in the form of enema in strangulated hernia.—(*Flora Medica.*)

Pereira says of all the lobelias, they are "dangerous or suspicious plants; mostly acrids, or acro-narcotics;" and of the *Lobelia inflata* in particular, "in excessive doses, or in full doses too frequently repeated, the effects of it are those of a powerful *acro-narcotic poison.*" Its effects, he says, according to Wood in the United States Dispensatory, are "extreme prostration, great anxiety and distress, and ultimately death, preceded by convulsions." Pereira states, that "Lobelia is probably applicable to all the purposes for which tobacco has been used." No one can doubt but that tobacco is a narcotic poison.

Dr. Barton of Philadelphia, one of our ablest botanists, in his vegetable Materia Medica, or Medical Botany of the United States, with colored plates, published in the year 1817, agrees with Bigelow, Eberle, and others, in saying that Lobelia Inflata is decidedly one of the most active of our native vegetables, and since poisons are, generally, under judicious management, good medicines, the Indian tobacco seems to have an undoubted right to a place in our Materia Medica. When given with a view to empty the stomach, it operates vehemently, and speedily, producing, however, great relaxation, debility, and perspiration. It is considerably narcotic. It is manifest that the plant is sufficiently deleterious to produce dangerous consequences to the system, if administered without great caution. Not only horses and cattle have been supposed to be killed by eating it, but a remarkable instance of its deleterious effects on the system, is related in the report of a trial of a notorious empiric in Massachusetts, who used the Lobelia to a pernicious extent as a nostrum. This daring and ignorant man is

* In a recent visit to the Indian settlements on Lake Superior, we found consumption to be one of the most fatal and common diseases to which the natives are subject. We were called to prescribe for several Indians, both young and old, laboring under the tubercular form of the disease, and in different stages of it. If the remark of Dr. Rush had been intended to apply to the Indians, in their rude state, unacquainted with alcoholic stimulants, and other causes of disease, so prevalent among the whites, it is erroneous; for the disease prevails universally among them. But the remark is unqualified: "Pulmonary consumption," he remarks, "is unknown among the Indians in North America."—(*Med. Inquiries*, Vol. I., p 37.)—*Ed. N. Y. Jour. of Med.*

said to have usually prescribed it, and frequently with impunity, in the dose of a common teaspoonful of the powdered seeds or leaves, and often repeated. If the medicine does not puke, or evacuate powerfully, it frequently destroys the patient, and sometimes in five or six hours. (Vol. I., p. 188.) And yet this *harmless, divine remedy* is not in the least poisonous! *Credat Judæus!*

Beck says, "Horses and cattle have been killed by eating the plant." He also classes it among the poisons. (Med. Jurisprud., vol. ii., p. 289.)

Bigelow observes: "The Lobelia is a prompt emetic, attended with narcotic effects during its operation. If a leaf or capsule be held in the mouth for a short time, it brings on giddiness, headache, a trembling agitation of the whole body, sickness, and finally vomiting. Its effects are like tobacco in those unaccustomed to it. If the dose be large, it brings on dangerous symptoms. On account of the violence of the operation, it is probable that this plant will never come into use for the common purposes of an emetic. On account of the *harshness of its operation*, it is reluctantly resorted to by patients who expect relief by milder means." (Sequel, p. 248.)

Dr. Thacher—

"From some of its effects, says an eminent physician, lobelia seems to be related to some of the narcotic plants; its stimulus seems to be of the diffusible kind, as Dr. Cutler, on taking it, experienced an irritation on the skin over the whole body. It is, probably, one of the most powerful vegetable substances with which we are acquainted, and no rational practitioner will have recourse to it, but with the greatest precaution. It has proved fatal in the hands of a noted empiric."—*Dispens., 2d edit.*

"The prominent virtues of this medicine (Lobelia inflata) are those of an emetic. It is too active, however, to be given with safety in the present state of our knowledge with this intent."—*Eclect. Dispens.*, 1827 edit., p. 202.)

"The lobelia inflata is now employed by the steam doctors of the western country, and is part of their treatment in all diseases. Its activity is so great, that it should always be given with great caution."—*Ellis's Med. Formulary.*

"*Lobelia inflata*, a quick and violent emetic, attended with distressing nausea, great prostration, copious retching, and occasionally with purging. A hazardous remedy, and only adopted as an emetic to spasmodic asthma, and to facilitate the reduction of strangulated hernia, for which last purpose it is as useful and safer than tobacco."—*Paine, Mat. Med.*

We could go on in our quotations from medical writers almost *ad infinitum*, to show the narcotic and poisonous effects of this article, but the above, we think, is sufficient to satisfy the candid and reflecting mind. Still the steamers insist that the article is not poisonous. What constitutes a poison? See what Dr John Gordon Smith of England, one of the most learned medical jurists in the world, says upon this subject: "Poisons may be defined substances which being injected into the living animal system in small quantities, produce deleterious effects, and if given to a certain extent, occasion death." What human being then, in his sober senses, with all these facts and authorities staring him in the face, can deny that the Lobelia is a poison of the most dangerous character, and in the hands of the ignorant and illiterate self-created and patent-made pretenders, is a two-edged sword which has destroyed and will continue to destroy its thousands of unsuspecting vic-

tims. If these facts, and innumerable others that might be produced with the greatest ease, are not sufficient to satisfy any reasonable being of the poisonous quality of the lobelia, neither would they be convinced, though an angel from heaven should assert the same thing; and we might as well attempt to reason with maniacs.

Is not, then, that community duped and gulled, who commit the charge of their lives and health to the keeping of ignorant men, who act under a pretended *secret* patent-right to deal out one of the most dangerous articles of the materia medica; and men, too, who are often ignorant of the first principles of science, and who are interested in endeavoring to build up their own reputation upon the ruin of men of knowledge and information? The answer will be readily given by any candid man. No wonder, where such a system prevails, that regular physicians have so great an amount of business.

Two remarkable trials, at least, have been had in this country, for murder and for manslaughter, with this article. The first was against Samuel Thomson, to which I have more than once alluded in this paper, for murder, in 1809. The other against a Mr. Frost, of New York, for manslaughter, in December, 1837. Thomson was acquitted on account of the defect in our laws. The following is the close of the charge of that ornament of our bench, Judge Parsons, on this memorable trial, and it ought to be written in letters of gold.—"It is," says he, "to be exceedingly lamented, that people are so easily persuaded to put confidence in these itinerant quacks, and to trust their lives to strangers without knowledge or experience. If this *astonishing infatuation* should continue, and men are found to yield to the impudent pretensions of ignorant empiricism, there seems to be no adequate remedy by a criminal prosecution, without the interference of the legislature; if the quack, however weak and presumptuous, should prescribe with honest intentions and expectations of relieving his patients." The verdict, in the case of Frost in New York, was a most righteous one. It brought him in guilty of manslaughter in the fourth degree, but the jury recommended him to mercy. This mercy might have been considered a greater punishment than if he had been condemned.

The *Lobelia inflata* yields its active properties readily to water and alcohol. Water distilled from it, according to Mr. Proctor, has the odor of the plant, without its acrimony. Mr. Proctor found the plant to contain an odorous volatile principle, probably volatile oil; a peculiar alkaline principle named *lobelina;* a peculiar acid first noticed as distinct by Pereira, called *lobelic acid;* besides gum, resin, chlorophylle, fixed oil, lignin, salts of lime and potassa, and oxide of iron. The seeds contain at least twice as much of lobelina, in proportion, as the whole plant, which yielded only one part in five hundred. They contain also thirty per cent. of a nearly colorless fixed oil, having the drying property in an extraordinary degree. *Lobelina* was obtained by Mr. Proctor from the seeds by the following process. The seeds were treated with alcohol acidulated with acetic acid, until deprived of their acrimony, and the tincture was evaporated; the resulting extract was triturated with magnesia and water, and, after repeated agitation for several hours, the liquor, holding lobelina in solution, was filtered; this was then shaken repeatedly with ether until deprived of acrimony; and the ethereal solution, having been decanted, was allowed to evaporate spontaneously. The residue, which had a reddish brown color, and the consist-

ence of honey, was deprived of coloring matter by dissolving it in water, adding a slight excess of sulphuric acid, boiling with animal charcoal, saturating with magnesia, filtering, agitating with ether until this fluid had deprived the water of acrimony, and finally decanting, and allowing the ether to evaporate. Thus obtained, *lobelina* is a yellowish liquid, lighter than water, of a somewhat aromatic odor, and a very acrid, durable taste. It is soluble in water, but much more copiously in alcohol and ether, and the latter fluid readily removes it from its aqueous solution. It has a decided alkaline reaction, and forms soluble and crystallizable salts with sulphuric, nitric, and muriatic acids, and a very soluble but not crystallizable salt with acetic acid. It forms an insoluble compound with tannic acid, which instantly precipitates it from its solution. By a boiling heat it is entirely decomposed, losing all its acrimony; but, when combined with acids, it may be subjected to ebullition with water without change. Mr. Proctor introduced a grain of it diluted with water into the stomach of a cat, which became immediately prostrate, remained for an hour nearly motionless, with dilated pupils, and had not recovered wholly from the prostrating influence of the poison at the end of fifteen hours. It did not occasion vomiting or purging. There can be little doubt that it is the narcotic principle of lobelia. (*Am. Jour. of Pharm.*, ix., 105, *and* xiii., 1.) The late Dr. S. Calhoun of Philadelphia was the first to announce the existence of a peculiar active principle in Lobelia, capable of forming salts with the acids; but he did not obtain it in an isolated state. An important inference from the effects of heat upon lobelina is that, in any of the preparations of lobelia, the plant should never be heated in connection with a salifiable base.—*Wood & Bache.*

Besides the species already mentioned, there is a rare European species, (5) L. *urens*, which derives its name from its blistering quality: also the (6) *kalmii* (Wildenow, an American species, described by Barton, *Med. Bot.*, vol. i., p. 122), and by Nuttall under the name of L. *gracilis.* This is a very variable species, different specimens differing considerably from each other, so as to be mistaken for different species. Besides these, we have the (7) L. *Dortmanna* (*water gladiole*), growing in fresh water ponds and deep swamps; the (8) L. *Puberula* (Mich.), which is found in Pennsylvania and Maryland, and flowers in September. These are all the species which are described by Torrey in his "Flora of the Northern and Middle sections of the United States."

The regular pharmaceutical preparations of Lobelia may be found in Pereira's Materia Medica, Thomson's do., Dunglison, Ellis, the Eclectic Dispensary, Thacher, Paine, Bigelow, Wood and Bache, the Philadelphia Journal of Pharmacy, Rafinesque, and every other modern materia medica writer in the Union. The empirical, in Thomson, Smith, the patent for making steam doctors, and every two-penny herbal which is hawked about the country by petty shopmen, for the purpose of making every man his own doctor.

Deerfield, Mass., Aug. 1, 1846.

[In the May Number of our Journal, we inserted an Obituary notice of Luther Ticknor, M. D., late President of the Connecticut State Medical Society. It is contemplated, at an early period, to publish a memoir of this lamented physician, embodying his published and posthumous writings; in the meantime we shall occasionally give to our readers, some of the latter which have been placed in our hands, believing that they will gratify as well as instruct. The following remarks were made to a Lyceum, or Scientific and Literary Association, in the town of Salisbury, Connecticut, of which the deceased was an active member. They were doubtless prepared in haste, as all his writings were, and thrown off on the spur of the moment, with no thought whatever of publication.—*Ed. New York Jour. Med.*]

ART. VI.—*Remarks on Physical Education.* By LUTHER TICKNOR, M. D., late President of the Connecticut State Med. Society.

I PROPOSE to offer a few remarks upon physical education, merely to occupy a few moments of your time, and not, as I believe, to answer your expectations. It is intended they shall possess one excellence, however, I mean brevity.

By physical education, is more commonly understood all manner of causes and circumstances that bear a part in the rudimental formation, future development of structure, and perpetuity of harmonious action among all the functions of mind and body, which is denominated health. But I cannot, in justice to my own feelings, avoid a consideration of those moral causes, whose influence upon the physical condition of man is too obvious to escape even superficial observation.

Since no given quantity of bones, muscles, nerves, blood-vessels, brain, fat and viscera (organs, I mean), make a man, we shall consider him a vitalized being, possessing a certain form, with proportions duly adjusted, and having so much power and authority over the animal, vegetable and mineral world, at least, as to minister to his own wants, and the wants of others. Again; the chemical elements which are yielded by the various structures of the human body, those destructive processes known to chemistry, have not yet been, and probably never can be, made to unite in such proportions, as to produce any one of the structures which are met with either among the solid or fluid portions of a living man. Hence the almost, perhaps quite universal admission of a "vital principle;" by which I mean that inherent property in the seeds of plants, and eggs of insects, which resists their decomposition for years and centuries, and under circumstances favorable for such a display of Almighty power, becomes active, and elaborates into a perfect representative of the parent plant or animal. It is that, which, a few hours after exposure to a given temperature, produces in the egg a clot of blood, and subsequently vessels, various organs, and in a few weeks or months a happy imitation of the parent bird. Do you ask what this principle is? whether spirit or matter? The wise and the foolish, the learned and the unlearned, are about equally informed on this subject. We are only acquainted with its effects, and *here* our knowledge is very limited. Though subject to disturbing causes, acting with very unequal energy and accuracy, in various organs and members of the body, yet, certain it is, that there are limits which it can never

transcend. Though the body may rise in stature with varied degree rapidity, yet the growth of the solid parts of the body cannot be ma to advance after a certain age, nor be preserved in full vigor much b yond a certain period of life by any means yet discovered; and those proud patriots, philosophers, physicians, philanthropists, madcap socialists, and fanatical religionists, who expect materially to affect the longevity of man by any system of dietetics, nostrums, social organizations or incantations, are likely to have their labor for their pains. Notwithstanding the vital principle so far varies in some of its actions, or is varied in its products by circumstances, as never to produce two human beings *alike* in person and character; yet it does guard against the possibility of converting, by any disciplinary measures, a man into a monkey (in form I mean), or a monkey into man.

This vital power, or principle of life, differs in individuals and in families, as to vigor and healthy action, imparting to the immature being parental diseases of body and mind, vicious propensities, acquired appetites and eccentricities of character on the one hand; and on the other, kindly bestowing upon the new being a bias favorable to certain virtues, and a constitution exempt from those prejudices and imbecilities, which entail upon a large portion of the human family, misery, ruin, and premature death.

This may not be an unfit time to offer a few remarks relative to hereditary diseases, and constitutional peculiarities. By hereditary disease, I do not mean a manifestly diseased condition at birth or very soon after birth; but a condition of the vital powers, or a quality of maternal nourishment, which is very certain, sooner or later, to set up disease in the offspring similar to, if not pathologically identical with, that of the parent.

Among those diseases termed hereditary, I will mention only those of more frequent occurrence, such as pulmonary consumption, rheumatism, asthma, gout, cancer, scrofula in all its varied manifestations; but affections of the bones, joints, skin, glands and digestive organs, palsy, apoplexy, hysteria and epilepsy, may also be considered to some extent hereditary. Those morbid conditions of the mind, to which we have alluded as hereditary, are mania, mono-mania, melancholy, hypochondriasis or low spirits, &c. Those vices, whose degrading influence seems (not without exceptions, however) to extend to posterity, are avarice, drunkenness, theft and licentiousness. The hereditary or transmissible character of these vices, I am aware, admits of dispute, but that they are so, irrespective of parental example or precept, I entertain not the smallest doubt; thus exemplifying that awful denunciation of the Decalogue, "I will visit the iniquities of the fathers upon the children, &c." This doctrine is almost susceptible of demonstration, as far as drunkenness is concerned, but, by what change of structure, or peculiarity of organization, this is effected, cannot be known, nor is it important; it is sufficient for practical purposes, if the fact be so.

We here leave the subject of pre-disposition for the present, and subjects connected with the formation of the human body—subjects about which volumes have been written, and concerning which learned men will continue to busy themselves, without affording much satisfaction to inquiries after the "*quo modo*." The period of human life when commences responsibility, and conduct possesses a moral character, probably varies much in different individuals, some children appearing in early life to possess a high sense of right and wrong; others seem to

possess little or no conscientiousness at a much later period. This subject properly belongs to another class of professional men, who have bestowed upon it (the speaker being judge), a vast deal of bad logic and questionable theology. The earliest indications of guilt in children are a blush when stripped of their clothing, and a downcast look upon uttering a falsehood. These were the first intimations of guilt recorded in the history of our race. The human infant has been an object of more or less solicitude to all nations, in all ages, whether Christian or heathen, civilized or savage, and has been subjected to all the abusive and absurd treatment which caprice, whim and superstition could invent; and yet, in all this, however, reference has been had to the health and future pursuits of the individual. Passing by particulars, it is sufficient to notice the athletic employments and sports furnished to childhood and youth, by those nations who gloried chiefly in conquests and renown of arms; and the patient endurance of suffering in others, who gloried in stoical indifference to pain. In our estimation, my friends, neither the physical nor intellectual character of our children should receive exclusive attention, but it should be the object of Christian philanthropists, statesmen, physicians, parents and guardians, to cultivate their minds with supreme regard to the highest possible attainment in moral rectitude. Physical training may be said to commence with birth. Atmospheric pressure and temperature, clothing and food, here commence their influence, and begin that series of susceptibilities, developments and changes of structure, which results in the formation of a physical character, more or less perfect. At this point commence our responsibilities; and here should go into operation those measures, if any there be, to counteract hereditary predisposition, to adjust the quantity or correct the quality of nourishment upon which so much depends during the early period of human existence. A case occurred in this town, where three children in succession in the same family, at about six months, became diseased and died, without deriving any benefit whatever from remedies. The mother was healthy, and of correct habits. She was advised, on a subsequent occasion, to wean her little ones at four months. The result has been a healthy family. The animal heat, in early childhood, is sooner dissipated than in adult life, and its supply less abundant; hence children should, up to mature age, wear flannels next to the surface. The extreme parts of the body should be kept warm, invariably from infancy to old age, if health and longevity be worth the trouble. The dress of both sexes should be loose, so loose, as to impose no restraint upon the motions of the body or its members—I wish to be understood on this subject, and so I repeat, *that no motion or attitude, which the body is capable of performing or assuming, can be arrested or prevented with impunity;* for sooner or later, the unhappy violator of nature's laws will be called upon to pay some part of the forfeiture for such infraction. While the other sex are the principal sinners and sufferers in this particular, ours is by no means guiltless; there are many young men so far discipled to a pitiable fashion, as to suffer great inconvenience and impairment of health, so corseted, strapped and laced, as to prevent the growth and healthy action of internal organs; besides affording promise of coming short in anatomical proportions and manly physical powers. Our sisters are the principal sufferers from neglect of the foregoing precept; their change of anatomical proportion, in escaping from youth to women's estate, is much greater than ours, and their duties of

life make less imperative demand for extended and varied motions of the body, so that they *can and do learn to endure* the torment of tight dresses with uncomplaining heroism. The ladies will pardon any want of gallantry my remarks would seem to imply. During the growth of the body, not only should tight lacing be avoided, so far as the bony structure of the chest is concerned, but above all things should you eschew a *stricture* an inch or two below the more firm bony structure of the thorax. The morbid conditions arising from too straitened a condition of the waist and abdomen before the body is fully grown (after which I suppose it will not do as much mischief, for strictures will not be borne, I assure you), are pale lips, and otherwise bloodless complexion after a short period; all those ailments, for ever doctored and never cured, which go to make up that dark-complexioned family called dyspepsia, consumption of the lungs, palpitations of the heart and larger arteries, dropsy of the lower extremities and abdomen, and in short, a large proportion of those ills, for which the healing art can do but little while the cause continues to operate; for which the vast catalogue of nostrums are provided, and from whose influence none receive much benefit but the venders.

This advice for the hundredth time will be disregarded, and death will continue to number among his victims a vast population of those who, but for the despotism of a disgusting fashion, might have lived to ornament society and gladden the family circle. I here cheerfully dismiss this hackneyed subject, without indulging even a hope that future generations will be much wiser than the present. I will barely suggest as a preventive measure, that parents somehow contrive to convince their daughters, that they actually set a higher value upon mental and moral qualities, than personal decorations and accomplishments.

The next subject worthy of attention is that of diet, embracing food and drink. This is a broad field, and has received a great amount of cultivation within a few years; but, after giving due credit for a good deal of hypothetical reasoning and analytical demonstration, I think the bluster and sweat of the performers has proved but indifferent husbandry, and laid the public under no great obligation of gratitude.

There cannot be even the appearance of an argument in support of exclusive vegetable diet, derived from the Sacred Scriptures, anatomical structure of the body, configuration of the teeth, functions of the human body, the past experience of mankind or the present condition of societies, families, fraternities and sisterhoods; but arguments absolutely conclusive in favor of a mixed diet, consisting of animal and vegetable matters, including, of course, fruits of all kinds, are deducible from all of these sources. It is illogical to suppose, since some dyspeptics are benefited by bran bread, that therefore bran bread will prevent not only dyspepsia, but all other maladies. The crusade against tea and coffee can hardly claim a more respectable parentage or support, and yet, upon the score of economy, and, in some cases, of health, water is to be preferred as a beverage.

It is now pretty satisfactorily ascertained that the human body cannot be long sustained in full vigor, capable of continued muscular action, without a supply of a certain element abounding in animal matter, and which is met with in but few vegetable substances, I mean, nitrogen—that substance, which, in the form of gas, forms a large proportion of the atmosphere; and though we receive it into the lungs at every breath, it is not known to serve any other purpose than to dilute the oxygen,

which otherwise would prove suddenly fatal. I believe its absorption by the skin is not proved, if suspected by physiologists. It follows then, that our supply of nitrogen must be derived from animal matter chiefly, it being so sparingly distributed to vegetables. Those structures of animals containing most of this matter, are muscle, skin, tendon, &c., while the fat contains little or none. To anticipate the inquiry, why fat meat is so universally relied upon by laboring men, I remark that the lean flesh of animals goes to supply muscular power, as is evidenced in the preference it receives from the laborers on our railroads, beef being universally preferred to pork; while animal fat affords elements for maintaining the temperature of the body, and is used almost exclusively as food in the colder regions of the earth, while their inhabitants are not, I believe, distinguished for muscular activity. So, then, in a climate like ours, a due mixture of animal fat, in the form of butter, pork, &c., with beef; is probably best; while there is room to suspect that the people of Great Britain owe their superior muscular power to a less proportion of pork in their food. Observation will sustain the assertion, I trust, that we consume fat meat with a higher relish in winter than in summer, thus confirming, or rendering probable the doctrine, that the *lean* flesh of animals is indispensable to long-continued muscular activity.

If the foregoing remarks are true, it follows that milk, which is a happy compound of animal and vegetable elements, is the appropriate food of childhood; and as this state gives place to youth, meat should be allowed at pleasure, without any fears of a dull, stupid son, or a *too* healthy, active, romping daughter. If this inference be just, it exposes the folly of those who would revolutionize the diet of the whole human family, confining them to Graham bread and water-gruel, with a promise of exemption from disease, and a lengthened life to any extent that should be desired. This philosophy can only be accounted for, by admitting what has always been supposed true, that *great learning* extends to the very regions of folly. There can be no doubt, I think, in the mind of an observing physician, that restrictions in diet, limiting the supply of aliment to one or two articles, and watching for symptoms of oppression of the stomach, have occasioned very great damage to constitutional health, and leave a foundation for more fatal diseases than would be likely to occur from the greatest carelessness and ignorance in matters of diet.

This is a fit place enough, though not perhaps the most fitting occasion, to offer a remark or two on the employment of fermented liquor, cider, beer, &c., in connection with our meals. In health, they stimulate the stomach to receive a greater quantity of food than is needed, or properly digested; thereby engorging and ultimately weakening the organ, and impairing at least the delicate quality of its fluids. Notwithstanding this sweeping objection, there are cases, difficult of cure by any other means, which readily yield to a moderate use of some of this class of agents.

The density or pressure of the atmosphere, even where the surface of our country is most elevated, is not so great as to affect very materially our physical condition, but we New Englanders are affected by extremes of temperature, and shall continue to suffer more and more, from generation to generation, from *sudden changes*, as well as from the former. Humidity, probably, has less physical influence than has been

supposed. That class of constitutional diseases for which New England is so distinguished, comprises strumous or scrofulous affections, catarrhal affections, or bad colds, frequently, *very* frequently ending like the former, in destruction of the lungs.

The speaker believes there was something in the manners, morals, business habits, diet, amusements, or patriotism of our ancestors, which counteracted or antagonised those influences, which we, their children, have so much reason to deprecate. Pulmonary consumption, which formerly carried off here and there an individual only, and then frequently not until several years after the first invasion, now sweeps off scores of our population, in the short period of eight or nine months, on an average. Though this disease is not often cured, its deadly errand may be postponed, and its painful accompaniments greatly mitigated by medication; yet is it the dread of thousands, and fills many of our dwellings with sorrow from year to year.

Business employments, amusements, intellectual pursuits and culture, and especially moral conduct and character, social relations and empiricism, as affecting the physical constitution of our race, I pass over, considering each one of sufficient importance to occupy a volume. To these may be added, as modifying causes, religion and government.

It is becoming the profession to which the speaker belongs, to note the influence of the above causes, and I shall be happy to give you my thoughts and observations on *some* of these subjects on a future occasion if desired; presuming upon your courtesy and patience no further at present, than to caution you, my friends, against the physical evils, though somewhat remote, almost certain to result from periodical popular excitements, which do not pass over our country innocuously, whether got up for pecuniary, political or religious sectarian purposes.

Periods of high-toned excitement, on subjects connected with the pecuniary interests of nations, communities and individuals, have passed over some portions of the old world like a tornado, subordinating all interests, sacred and secular, prostrating all virtues, both public and private, to our insatiable appetite for a sudden acquisition of wealth, which few can endure with safety; happy would it be for us if the little experience we have already had were not lost upon us. We all remember, and some of us with pain, a period when a sort of mania, incubus or somnambulism, passed over *our* country, which affected every portion of it more or less severely; bestowing a moiety of its malignant influence upon the health and constitutional vigor and integrity of man. Men are the same now, that they were then, and shall *we* escape physical inflictions for this mammon worship! I fear we shall not, and I cherish a belief that even now we are beginning to experience the direct effects of our vast speculations, manifested in a loss of self-respect, mutual confidence, regard for truth, and giving rise to various immoralities whose combined influence upon the animal economy is, to derange the health of both mind and body, thus inducing a predisposition to disease, which, as has been observed, is transmissible to posterity. No habitual vice or virtue affecting the constitutional health, is wholly confined in its physical influence to the generation with which it originated. If the claims of phrenology be admitted, and its disclosures make any portion of physiology, we find no difficulty in the doctrine of hereditary diseases, virtues, and vices.

What shall we say of political excitements, or, through fear of giving

offence, shall nothing be said touching their influence upon the human system? I would not invade the rules of the Lyceum; nor would I hazard your respect and confidence, for they are reciprocal, nor severely test your forbearance, for I stand in need of it; but I can hardly suffer this opportunity to pass, without warning you of the danger attendant upon that state of feeling bordering on distraction, which I hope has not reached beyond the incipient stage. No one, I presume, pretends that candor or fair play does even now, or is likely in future, to preside over political debates; or truth and righteousness to characterize electioneering arts and manœuvering. It may be said in reply, and is said, that the arts and management are equally the weapons and resort of both parties, and that truth, justice and honor, are out of the question with politicians; also, that these seasons of excitement tend to purify our political atmosphere, equalize temperature, and to dissipate and dilute those effluvia and exhalations, which accumulate and stagnate in other countries, nourishing and sustaining despotism, oppression, ignorance and servility. "Be not deceived, for whatsoever a man soweth, that shall he also reap." "If ye sow the storm, ye shall reap the whirlwind." If this remains part of our future experience, it may, it surely *will come*, in some form or other, for the God of truth presides over the nations of the earth, building up and pulling down whom he will. If our country were invaded by a foreign foe, or a portion of it in a state of insurrection, these mighty circumstances might justify extraordinary feeling, but not till then. Does any one ask how political excitement can be concerned in producing physical mischief? First, by deranging the healthy circulation of the blood in the heart and head, producing instant death in some cases, chronic disorganizations in others; secondly, it lowers the standard of public morals, which is always necessarily attended by physical suffering—sin and suffering always must stand in the relation of cause and effect. And what is the object of all this excitement? Why, it is some change in the measures of the general government, which, perhaps, *should* be trifling, and *may* be transient. And what is this nation, that affects so much consequence? Why, no more, at most, than a small section of a revolted province in the empire of Jehovah. Now, then, shall truth, justice, love, benevolence, and even humanity be sacrificed to sustain party men or party purposes; shall the plain and oft repeated precepts of our holy religion be disregarded, while we engage in this pitiful man-worship!

ART. VII.—*Case of Ovarian Disease in a female fourteen years of age.*—By H. N. BENNETT, M. D., of Bethel, Conn.

IN the month of April, 1842, Mr. J —— requested me to visit his daughter, then in her fourteenth year, and suffering from profuse menorrhagia. She was of sanguine temperament, light and delicate skin, blue eyes, auburn hair, of the full stature of her age, and decidedly intelligent. Upon inquiring of her mother, I was informed that she had menstruated once or twice, previous to the present period, at an interval of two or three months, the discharge being about as usual. The attack under which she was laboring commenced about 24 hours anterior to

my visit, and continued very profuse, so much so, that she began to feel the general effects of loss of blood, being considerably prostrated, and unable to sit in the erect position without fainting. She complained of no pain. Her mother attributed her difficulty to over-exertion, combined with some mental excitement of a religious character. I ordered her the use of acetate of lead and opium, and perfect rest in the horizontal posture. Under this treatment the menorrhagia abated in a few hours, and in a day or two the discharge ceased entirely.

From this time, I was not consulted in regard to my patient, until Sept., 1843. She had in the meantime alternately assisted her mother in her household affairs (her father being a farmer), and attended school. At this time I found her decidedly changed in appearance,—she was considerably emaciated, countenance anæmic, and her features contracted. She had a well marked right lateral curvature of the superior portion of the spine, and complained of pain in the iliac region of the left side. I was informed that she had menstruated but once since the period at which I visited her previously, and that it was profuse, but not to so great a degree as before. Her appetite was poor and capricious, and she frequently rejected her food a short time after taking it. She had no symptoms of pulmonary irritation that I could ascertain. I however auscultated and percussed her chest, but formed no diagnostic opinion in regard to the existence of tubercles, although the respiratory murmur from both lungs appeared to me duller than usual for a female of her age. I attributed her symptoms to the derangement of the generative functions, and placed her upon the use of the ferruginous preparations, recommending at the same time a nutritious diet, to consist principally of good beef and bread, porter as a drink, and carriage exercise in the open air.

She pursued this course for a short time without much amendment, with the exception of a little better appetite and better retention of food upon the stomach. She still complained very much of the pain in the left iliac region, and I began to suspect some organic disease of the pelvic viscera. Upon examination, I found a decided prominence of the left side over that of the right, and was confident I could distinguish the outlines of a deep seated tumor of small dimensions. I could not, however, discover any fluctuation. Taking the train of symptoms which my patient had shown, the profuse menorrhagia at first, her subsequent chlorotic and anæmic appearance, the gastric irritation, the situation of the tumor, &c., I at once diagnosticated a disease of the left ovary, and informed her parents to that effect, at the same time predicting, from the severe constitutional effects already manifested, that it would eventually prove fatal.

As is usual after such a prognosis, the patient soon passed from my hands. She was afterwards treated for a length of time by a Thomsonian, and abandoned as incurable. I was then recalled and found her apparently moribund. She was completely emaciated, almost pulseless, the ovarian tumor much increased in size, and the whole abdomen distended and tympanitic. I simply ordered brandy to be taken internally and sinapisms to the extremities, and left her, supposing a few hours would terminate her existence. In this I was disappointed—the stimulus roused the powers of life, and she began to amend. A few days after, while upon the stool, she discharged *per anum* a large quantity of a purulent fluid mixed with blood, and the tumor almost immediately disappeared.

From this time she apparently improved, and became able to ride out, and I saw little of her till towards the close of June, 1844, a period of three months from the time of the purulent discharge *per anum* and rising two years from her attack of menorrhagia. I was then again called, and found the case terminating evidently by effusion upon the brain. The day before my visit she was brought home from the house of a friend, a distance of several miles, and complained upon the road of dimness of vision, pain in the head, &c. During that night she became paralytic upon one side. Afterwards the pupils became gradually dilated, and she died with all the symptoms of hydrocephalus, evidently the result of extreme anæmia.

Autopsy 18 *hours after death. Abdomen the only part examined.*—After the section of the abdominal parietes, an inspection of the viscera, *in situ*, presented the following appearances.—The intestines were adherent at numerous points to the parietal sheet of the peritoneum, and upon severing the adhesions and raising the flaps of the abdominal walls, the transverse colon was found bent at a considerable angle, with the apex downwards, and constricted to one half its natural calibre at the summit of the angle. This drawing down and constriction of the colon was found to be produced by a band of the epiploric appendages, which had slipped between the convolutions of the intestines and adhered to the last lumbar vertebra. The liver, with the exception of the left lobe, was very firmly adherent to the walls of the abdomen, and appeared much atrophied. Upon drawing up the intestines the contents of the pelvic cavity were seen completely adherent the one to the other, defying any attempt to dissect the parts accurately. On the left side, however, was seen the ovarian tumor, somewhat larger than a turkey's egg, and, with the exception of its summit, agglutinated to all the surrounding parts. It appeared to involve nearly the whole of the Fallopian tube of the same side. Upon puncturing the tumor at its summit, a small quantity of serous fluid escaped, and laying it open it was found entirely filled with a purulent collection, no vestiges of the texture of the ovary remaining. The walls of the sac were about a line and a half in thickness at its superior or non-adherent portion. Upon the iliac side of the tumor and towards its apex, was a communication with the rectum, of the size of a goose quill, the work of ulceration. Two or three currants, in an undigested state, were found in the purulent fluid of the tumor, which had evidently passed in from the rectum. The patient had eaten some currant pie several days previous to her death. The uterus was very little changed in its texture, and was of the ordinary size for a female of her age. The right ovary normal The whole abdomen showed the marks of former violent peritoneal inflammation.

Reflections.—In the above case it is impossible not to recognize that there existed a close connection between the attack of menorrhagia, for which I was first consulted, and an incipient, but at that time unappreciable disease of the ovary. It is altogether probable that the point of departure was in the ovary, and that the profuse hemorrhage from the uterus was simply the effect of ovarian irritation. I consider this case as illustrative of the opinion, that the function of menstruation depends in a great degree, if not exclusively, upon the ovaries, and upon the regular and periodical evolution of ova. It is not difficult to conceive that the irritation produced in the ovarium by the evolution of an ovum was the first moving power, not only of the menorrhagic attack,

but of the ovarian disease itself. The total disorganization which took place, leaves me undecided as to what were the primary pathological changes which occurred in the organ. The constitutional effects of the disease were manifested somewhat early, and show the powerful influence of the generative function upon the economy. It is not surprising that this influence is thus marked when we consider that the development of the organs of generation, and evolution of the germs of new individuals, inasmuch as they provide for the continuation of the species, are the first physiological steps towards death.

The termination of this case by effusion upon the brain, is another instance of the congestive effects of anæmia upon the cerebral organs.

ART. VIII.—*Remarks on some of the Proceedings of the New York State Medical Society, at the annual meeting, Feb.* 1, 1846. By CHARLES B. COVENTRY, M.D.

ON looking over the "Transactions of the Medical Society of the State of New York" for 1846, I was surprised to find that certain resolutions which were appended to a report made to the society the previous year by N. S. Davis, as chairman of a committee, were adopted by the society, and a committee appointed to submit them to the county societies for their approbation. The two important resolutions, and the only ones which I shall notice, are the following:

1. *Resolved*, That every candidate for license to practise physic and surgery should be required to give evidence to the board by whom he is examined, that he has received a good academical education, and that he has studied physic and surgery not less than four years with some regularly licensed physician: that he possesses a competent knowledge of physic and surgery; that he has personally assisted in the dissection of at least two good anatomical subjects under the direction of a regularly educated physician, or in some incorporated medical College in this State; that he be practically acquainted with botany, and has presented the board with an essay on some medical subject written by himself; and that he is twenty-one years of age, and of good moral character.

2. *Resolved*, That a board of censors, to consist of not more than five from each of the censorial districts, be chosen, the choice to be made from candidates who may be nominated by the county medical societies composing the respective censorial dictricts, by a majority of the votes of all the members of the State Medical Society present and voting at any annual meeting thereof. The term of office of each censor in the respective censorial districts to be determined at the first election by lot, and thereafter the vacancy of one in each censorial district to be filled by the State society at its annual meeting; seven of said court of censors to constitute a quorum for the transaction of business, to meet at such times and places, and be governed by such rules and regulations, and receive such compensation for their services as the State Medical Society shall from time to time direct. The board of censors there constituted shall examine all candidates for licenses to practise physic and surgery, and to such as are found qualified agreeably to the requirements of the preceding resolution, it shall be their duty to grant a license to practise physic and surgery under the auspices of the society, after filing their certificate as now required by law. Said board may also examine such candidates for the degree of Doctor of Medicine as have been practitioners of medicine in good standing for at least

five years, and by a vote of two thirds of the board of examiners present, may recommend such candidates to the Regents of the University as suitable persons on whom to confer said degree. Each person licensed, to pay to the president of the board of censors, for the use of the society, twenty-five dollars; and each person who is recommendsd as entitled to the degree of Doctor of Medicine, to pay as aforesaid the sum of thirty-five dollars, and no license to be granted or degree conferred, until said fees are paid. And that said board annually report their doings to this body, and all laws relating to granting licenses to practise physic and surgery, and to conferring the degree of Doctor of Medicine in this State, inconsistent with the above regulations, to be repealed.

The above resolutions having been adopted by the State society, and submitted to the county societies for their approbation, it is reasonable to infer, that if sanctioned by the county societies, they are to form the basis of application for future legislation, and are expressive of the sentiments of the State society. The ostensible object is *medical reform:* but the county societies, and the individual members of the profession, may ask, why we are called upon to abandon a system which has been in successful operation for forty years: a system, by which the profession has been elevated from a state of chaos to its present high position, and under which the profession has gone on improving;—one in which the qualifications of those admitted to the profession depend upon the profession itself.

As the resolutions themselves contain no reasons for such important changes, we are compelled to seek for them in the report of the chairman of the committee. Here we find an abundance of assertions as to the present degraded condition of the profession, and the facilities with which licenses are procured. Now these assertions may or may not be true: they certainly are not self-evident propositions, and we have searched in vain in the report for any proof of their truth. If they are not true, the semi-official endorsement of the State society, by adopting the resolutions, can give them no additional weight. We will, however, examine the reasons in the order in which they are presented. The report says:

"What then are the evils of which we complain? We answer—first, there is no uniformity in the standard of attainments required of the candidates for admission into the profession. These numerous boards contain more than 250 physicians. Many, if not most of them, are chosen by their respective societies, more on account of the convenience with which they can come together, than for their fitness for the important station. While one board may be faithful in the discharge of its duties, another may be lax and indifferent, looking but little beyond the certificates indicating that the candidate has studied the term required by law; and the fact that he has the means of paying the necessary fees."

Whether this be true, or not, the county societies must be the best judges; we can only say, it is contrary to our own experience. If the censors are qualified and faithful in the discharge of their duty, it is difficult to conceive that there could be such a discrepancy as to give rise to much injury. We certainly have heard of no complaint on this account. The favorite objection of the chairman is the *venality* of the examiners. The report says:

"Second, the *pay* of these various boards is made to depend entirely on the fees derived from the candidates, whom they license. They may find them but half qualified, and readily acknowledge they ought to be rejected.

But, thinks the censor to himself, there are their certificates, showing that they have studied the time required by law, and if we refuse to license them, *we lose our day's work* besides our expenses, and after all, they are about as well qualified as some that are already in the profession. Hence we will give them a license with some admonitions about further studies (as an anodyne for the conscience), and if the community do not like them they can refuse to employ them. That such thoughts and feelings do arise in the minds of the censors under the circumstances as mentioned, will be apparent to every one *who carefully notes his own mental operations.*"

We have no objection to the chairman's expressing his own views, and giving his reasons, but we do protest against his setting up his own standard of moral rectitude as that of the profession. So far from such views being "apparent to every one," we believe that nine out of ten of those entrusted with the responsible duty of censor, would spurn with indignation the imputation that the paltry consideration of two or three dollars would make them unfaithful to their trust. Certainly in some, and we believe in many of the counties, the censors receive no compensation for their services; what then becomes of this slanderous imputation? It seems, the Medical Colleges are equally amenable to this charge; that they are even beset with stronger temptations, and are, if possible, more corrupt. The report says:

"If pecuniary considerations are brought thus to bear on the censors, they are no less direct and powerful on the medical colleges. The multiplicity of these institutions makes it necessary for them to make the most of every resource to sustain themselves, and the fee of twenty or twenty-five dollars from every graduate makes no small item in their income, particularly if they can contrive to swell the list to twenty-five or thirty-five to each college annually. This, together with the natural desire on the part of the college to make as fair a show of prosperity as possible, and at the same time hold out as strong inducements as may be for the students to attend, contributes not a little to that laxity in examinations, which permits numbers annually to enter the profession, who have scarcely as much medical knowledge in their heads as is contained on the face of the parchment unworthily received from their Alma Mater."

As the above is unsustained by any evidence, it can only be received as the views of the chairman, and as indicative of what would be his own course under similar circumstances. We shall have occasion to show that the imputation is as groundless as that against the county censors, who receive no compensation for their services.

"Third—The present connection between the business of teaching and the power to license, is wrong in principle and injurious in practice. Such connection is therefore not only wrong in principle, but wholly *unphilosophical.* That it has been injurious in practice, the present state of the profession affords abundant evidence; indeed, such has been, and still is, the facility with which young men are converted into doctors through our professional tribunals, that it has grown into a proverb by no means destitute of truth, that there are more quacks *with* parchments than *without* them."

We believe that the practice has been almost universal throughout Christendom for literary institutions to confer their honors on their own students. It certainly prevails throughout Europe and in every state in this country. It was left for the chairman to make the discovery that it is "wrong in principle, and wholly unphilosophical." But

this separation of the teaching from the licensing power is to be the sovereign panacea for all the ills the profession is heir to. We can recollect but one instance where the experiment was fairly tried, and we are surprised the chairman has not referred to it, if he did not recommend the precise act. Previous to the passage of the act of 1806, which is so obnoxious, and which it is now proposed to repeal, the powers of teaching and licensing were separate. Under this regulation the student was to be examined *before the governor, chancellor, judges of the supreme court, the attorney general, the mayor and recorder of the city of New York, or any two of them, and their certificate constituted a license to practise.*

"Fourth—We object to the present arrangement, because it directs the attention of the licensing authority more to the time and place of study than to actual attainments."

As the resolutions do not touch this objection, or propose any remedy, we shall give it no further notice.

"Finally—We object to the present system of medical education, because it tends to make superficial scholars, *and those only.*"

We have searched in vain throughout the resolutions for anything having the remotest tendency to correct this evil; on the contrary, we are satisfied the proposed changes would have a directly contrary effect. We cannot, however, resist the temptation to give the chairman's very graphic description of the present system of education; it is evidently a favorite theme, and one in which he revels with much delight. He says:—

"The young man enters the office of a physician, pores over his library from day to day, gets now and then a question from his preceptor, occasionally sees a tooth extracted, or venesection performed, attends one or two courses of medical lectures, where the whole system of the theory and practice of medicine, materia medica, medical jurisprudence, obstetrics, surgery, physiology, pathology, and anatomy, are gone through with, in the space of sixteen weeks, a time scarcely sufficient to dissect profitably one subject, and to which is often attached hospital and clinical instruction; he is then honored with an M.D., and sent forth to kill or cure, as fortune may dictate."*

Again:—

"It is worse than folly to talk of quacks and quackery, to endow medical colleges, and organize medical societies, whilst whole scores are annually presented with the time-honored insignia of our profession, who are not only destitute of medical attainments, but also of the common rudiments of an English education, *and in moral character and mental capacity below the common dealers in lobelia, cayenne pepper and steam.*"

Such gross and wholesale charges may serve to round a period, may destroy or weaken the confidence of the community in the profession, and may seriously injure the reputation of our medical schools; but they can never form the basis of judicious reform. An honest lawyer never gives an opinion until he has examined his witnesses and investigated the merits of the case. A wise physician does not prescribe for his patient on vague rumors, but first ascertains whether his patient

* *Query.*—What Institution confers the degree of M.D. after a single course of lectures?

is sick, and the nature and character of the disease. How is it with our modern reformers in medicine? The chairman of the committee, N. S. Davis, has for four years held the office of CURATOR in the Medical Institution of Geneva College. It was his privilege, certainly, if not his duty, to have attended every examination, and voted on every candidate for a degree; he having as much voice in the recommendation as any professor in the institution. He had the legal right, and every facility was furnished for thoroughly examining the course of instruction; had he done so, we doubt whether he would have hazarded the assertions made in the report. *But he has never attended a single examination!* At the session of the State Medical Society, in 1835, one of the members, surprised at the statements made in the report, offered a resolution that the Censors of the State Medical Society attend the examinations at the respective Medical Colleges, and report to the society at its next meeting. This simple resolution to investigate the truth of the charges, *was opposed by the gentleman who made them, and rejected by the society.* Will the county societies sustain this crusade against their own institutions, when the State Society, which should have been the first to defend, refuses even to ascertain the truth or falsehood of the charges against them? We shall see.

Having very briefly examined some of the reasons offered in the report, we will proceed as briefly to examine the probable effect of the proposed changes. The effect which it would probably have on the county societies has been so ably depicted by the venerable Dr. Stearns in his appeal to the State Society, that we shall not add a word on that subject except to urge the perusal of his remarks, upon every one who takes an interest in the profession.

The period of study proposed in the first resolution is four years, the same as is required by the present law. If any student prefer the course recommended in the resolution he is at liberty to adopt it, and at the end of four years, if he can pass an examination, he can get his license. As early as 1818, some friends to improvement in the profession, believing that a better preliminary education and more general attendance on lectures would tend to elevate the profession, obtained the passage of a law, that one year's study of the branches usually taught in colleges, after the age of sixteen, or an attendance on one full course of lectures, should be received as a substitute for one year's study. The law had the effect desired by those who proposed it. Previous to its passage, very few students from the country ever attended lectures; now, it is very rare that a student offers himself for examination without having attended at least one course of lectures; most of them attend two, and many three. It is this feature of the law (which by many was thought to have operated so favorably) which it is proposed to repeal, and return back to the law as it was before 1818. Whether it would be an improvement, we leave for others to judge. Very few of the medical students in the country feel as if they could afford any greater expenditure of time or money than the law absolutely requires, and as nothing would be gained in time by an attendance on lectures, whilst the expenses would be materially increased, few, comparatively, would attend lectures. To suppose that this would or could be corrected by the examinations, is

an absurdity of which no one acquainted with medical examinations would be guilty. The mere amount of knowledge acquired by attendance on a single course of lectures is far from being the only advantage. The student obtains a plan for his whole course of study, learns what books to read, becomes acquainted with other students, forms more elevated conceptions of the dignity and usefulness of his profession, and acquires a spirit of emulation which lasts for life. Students who have attended one course of lectures (feeling the advantages they have derived) are always anxious to attend a second, and usually manage to accomplish their object;* and those who have attended two courses are seldom content without obtaining a degree, consequently many attend three and some four courses of lectures. The effect has been that comparatively few now obtain a County or State license. In 1835, the number of students reported as licensed by the State Censors, were *five;* by seventeen County societies that reported, *eight.* In 1846, the number reported by eighteen societies, was *eleven;* that of the State Censors was *seven:* amounting in all, for the year 1845, to *thirteen*, for 1846 to *eighteen*; whilst the number of graduates in the several Medical Schools in the State, averaged about *two hundred and twenty five!* It is self-evident that the object of the resolution was directed against the Medical Schools. Remove, as is proposed, the inducement to attend the first course of lectures, and take away the power of obtaining a degree with the stimulus which it imparts, and if the effect is not retrograde, there is neither force in reason, nor truth in past experience. The directions in the resolutions as to what the Censors shall require, are almost too puerile to demand attention. We can only say, that a Censor that requires such directions would be totally unfit for his office. Who is to determine what constitutes "*a good academical education?*" There is, however, one requirement we cannot pass over in silence. The student must give evidence of having "assisted in the dissection of two subjects." With due deference to the State Society, we do not think it quite equal to the proposed requirements of the Thomsonians, which required that every candidate should give evidence of having treated at least two cases successfully. Many a tyro knows to his sorrow, that, without proper instruction, he may assist in the dissection of a dozen subjects without becoming an anatomist. A committee of the Massachusetts Medical Society, composed of John C. Warren, John Dixwell, and George Hayward,—men who are the ornaments and pride of our profession, seem to estimate differently the attendance on medical lectures. They say:—

"The counsellors of this Society consider courses of lectures to be indispensable to an adequate knowledge of the medical art, and, being aware that students acquire much more information from a second course, than from a first, do therefore concur in this third proposal, and in the amendment made by the New Hampshire Medical Society, which substitutes two courses of public Medical Lectures in some legally organized and respectable school, for one course."

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* Dr. Davis, we think, stated at the National Medical Convention that he had attended three courses, although he had to board himself at an expense of twenty-five cents a week. This shows Dr. D.'s estimate of the value of Medical Schools. Since that time, however, they have much improved.—[*Ed. N. Y. Journal.*]

What possible advantage does the proposed organization of a Board of Censors have over the present Boards of State Censors? We can see none. Whilst the present Boards of County Censors possess many advantages over the proposed mode, they are simple, cheap, convenient for the student,—would be far better acquainted with the character and habits of the candidates, and equally efficient with the proposed Board. The contemplated organization, on the contrary, is complicated, inconvenient for both pupils and censors, and expensive.

We come next to the consideration of the probable effect on the medical schools. We have already seen that the tendency would be to prevent our own students from attending lectures; but the deservedly high reputation of our schools attracts many pupils from other States, and from Canada. It has been estimated that one-half our students were of this class; perhaps one-third would be a nearer estimate. Take from our colleges, as is proposed, the power of conferring degrees, and you at once cut off the whole class of foreign students; deduct also the probably diminished numbers of our own students, and our medical schools may close their doors. We are credibly informed that Dr. Davis declares that he has no hostility to our medical schools; of course we are bound to believe him; but they may well exclaim: "Save us from such friends—our worst enemy could not have done us greater wrong." Having attempted to show the reasons offered in the report for the proposed change, the probable effect upon the profession and our medical institutions, we shall close by very briefly describing the mode of examination and requirements in one of our medical institutions, to see how far it is amenable to the charges or statements made in the report. In the first place, the State law requires that the candidate should be 21 years of age, should have studied medicine three years with some regularly licensed physician, and have attended two full courses of lectures in regularly incorporated medical institutions. He is required to furnish a dissertation on some medical subject, composed and written by himself, which is examined and approved by the professors, before the candidate is admitted to an examination. Each student is examined separately by the professors, in the presence of the whole board of professors; if approved, he is recommended to present himself before the Joint Board of Faculty and Curators, upon whom rests the responsibility of recommending him to the Trustees for a degree. This Board is composed of six professors and forty curators; six of the latter (equal to the whole faculty) are appointed by the State Society, the remainder are appointed by the Trustees, and selected from the most respectable and intelligent of the profession. The students are thoroughly examined in the presence of this Board, each *member having an equal vote in the recommendation:* if requested, the dissertations are read and defended in the presence of the Curators. The number of Curators that attend and vote, usually varies from ten to fifteen; the recommendation of at least three Curators is absolutely necessary to enable the Trustees to confer a degree. *Not one cent of the fee for diplomas goes into the pockets of the professors, neither do they receive any compensation for the labor and trouble of examination, whether the number be five or fifty.* The course of instruction has ever been open to investigation; the Faculty have not only courted, but

have solicited investigation, and they fearlessly appeal to their graduates, and the Curators who have attended the examinations, against the slanders of the report, so far as they were intended to apply to Geneva College.

All will admit that there are defects in our system of medical education, but we deny that they are half as great or glaring as represented in the report. We believe that the medical profession of the State of New York will not suffer in comparison with that of any State in the Union, or of any other country, in the practical acquirements of the profession; and we have reason to know that our Medical Schools are as strict in their requirements, and in the qualifications of their graduates, as those of the neighboring States. Even the chairman is compelled to admit that the greatest defects consist in the want of sufficient *preliminary education, and defective office instruction;* but for *these defects* we search in vain for any proposed remedy, either in the resolutions or report. These are defects, not in the system, but in its practical operation, and would be quite as likely to exist under the proposed system, with all its clumsy machinery, as under the present system.

ART. IX.—*Case of Compound Fracture of the Tibia in Utero and Congenital Talipes Talus.* By LAWRENCE PROUDFOOT, M.D., of New York.

MRS. F., aged 28 years, of sanguine temperament, and who has always enjoyed good health, during the sixth month of gestation, and of her third pregnancy, while attempting to pass through a very narrow passage, was severely pressed on the abdomen, and immediately experienced a violent pain in that region, accompanied with nausea and faintness. The following day she was threatened with abortion, having pain and some hæmorrhage. These symptoms continued for some days, and occasionally reappeared in a light degree, up to the time of her delivery, which occurred at full time and was perfectly natural. At birth, the right foot of the child (a female) was found permanently extended and turned upward, pressing against the side of the leg, above the external malleolus.

The tibia of the same side, about the middle of the bone, had apparently been the seat of a compound fracture; the two ends had united, at a slight angle anteriorly, and opposite to this angle there was a cicatrix, evidently of some time standing; there was considerable thickening of the parts near the seat of injury. I visited her on the 3d of June with her attending physician, Dr. Freeman, who had succeeded by bandages, and compresses from its birth, in bringing the foot down, but the case, now in the seventeenth month, presented talipes valgus complicated with equinus, the outer edge of the foot being very much turned upward, the internal malleolus very prominent, and the external scarcely to be felt. The tendo Achillis was rigidly contracted, the heel being drawn up about two inches, and the child only enabled to walk by the aid of a high-heeled shoe. I advised the section of the tendons, which was acceded to, and on the 16th of June, assisted by Drs. W. H. Van

Buren and Isaacs, I divided the tendons of the peroneus longus and brevis, and the tendo Achillis, which enabled me to bring down the foot, to a very considerable extent, and entirely overcome the eversion. Some adhesive straps were applied over the wounds, and a bandage from the toes to the knee. A modification of Scarpa's shoe was adjusted, and directed to be constantly worn. Since that time the condition of the foot has greatly improved, and the limb is of the same length as its fellow.

New York, July 28, 1846.

ART. X.—*Case of a Tumor, with remarks by* J. P. BATCHELDER, M. D.

THAT every operation in surgery should be based on the anatomy of the region which is the field of operative procedure is an axiom in the science which should never be held in light esteem by the operative surgeon; but it is of the gravest import when operations for the removal of tumors, whose relations involve parts essential to life, are about to be undertaken. The case of a tumor communicated by the writer to the profession, through the medium of the July No. of this Journal, was pre-eminently in point; and he would now with great deference submit another which may be deemed a counterpart to the former. A little girl, the daughter of Mr. Charles M——, of Boonville, in this State, about 7 years of age, had been for some time affected with a tumor situated in the right side of her neck, which commenced between two and three years before, under the ear, very like a common enlargement of the glands of that region.

At the time of the operation, September 16, 1841, it was somewhat larger than a pint bowl, and extended from and beneath the clavicle on the right side to the occiput and mastoid process of the temporal bone, and forward under the mastoid muscle to, and as we found in the operation, behind the trachea between it and the œsophagus, and backward between the trapezius and the levator scapulæ and scaleni muscles to the spinous processes of the third, fourth and fifth cervical vertebræ, depressing the right shoulder and pushing the head over upon the left. Anteriorly and inferiorly it was firmly bound down by the sterno-mastoid and omo-hyoid muscles; posteriorly by the clavico-cervical portion of the trapezius, and over all parts, by the superficial and deep fasciæ of the neck, which, although weak in so young a subject, contributed no doubt, with the above-mentioned muscles, to render the swelling firm and to such a degree fixed, as to make it exceedingly difficult to determine how far it was moveable, if indeed it were at all so. When all the parts were put in the state of the greatest relaxation, by grasping it with the hands, and as it were, pulling it outward, it was thought that a slight degree of backward and forward movement could be impressed upon it; but all attempts to move it longitudinally, *i. e.* in the direction of the muscles, were unavailing, except that by placing the fingers and thumbs above and below in the interstice between the sterno-cleido-mastoid and trapezius muscles, and applying considerable force, it did seem to be apparently moveable upward and downward, if the

parts were relaxed, but if tense, little or no impression could be made upon it.*

This being a tolerably good test, and perhaps the only true one for deciding the mobility of a tumor, much doubt existed as to the precise connection and mobility of the one under consideration; but from its being bound down so firmly by the fasciæ and muscles, and limited above by the head and below by the clavicle and shoulder, we hoped that its fixedness might not be quite absolute. No pulsation could be felt in any part of it, neither could that of the carotid or subclavian be perceived. As it was not affected by deglutition, it was inferred that it did not adhere to the trachea or larynx, and moreover it was hoped that it might lie anterior to the omo-hyoideus, and consequently not very intimately connected with the carotid and subclavian arteries; and this inference was rather corroborated by the fact that neither the motion nor sensation of the right arm or the pulse in the radial or temporal arteries was affected. If, however, this inference were just, how were we to account satisfactorily for the immobility of the tumor? The movements of the head and shoulder were restrained by the bulk of the tumor and tension of the muscles caused by it; but when either the head or the shoulder was moved backward or forward, the tumor did not appear to be carried along with them. In the interstice between the mastoid and trapezius it was slightly uneven; firm, but not hard. The character of that portion of the tumor which was covered by muscles could not be ascertained, and with the exception above mentioned it was almost entirely so covered, for in its growth it had pushed the sternal portion of the mastoid forward so as to leave scarcely any space between that muscle and the trachea, or between it and the sterno-hyoid and sterno-thyroid.

With reference to an operation, the nature of a tumor, and its connections and relations to surrounding parts, should be settled with as much accuracy as circumstances will admit. First then; What is the nature of the tumor; malignant or not? In the absence of well marked local phenomena which characterize malignity, the rapid enlargement of a tumor, not from excitement or irritation; or constitutional affection associated with one either slow or rapid in its progress, and particularly the latter (constitutional affection), may be considered as indicative of a grave and probably malignant disease; but in the case before us, the chylopoietic viscera are and have been all along in a very tolerable condition, and the constitution, although somewhat affected, did not appear to be so beyond what might be fairly attributed to the size and inconvenience of the tumor; certainly not to a degree commensurate with what might have been expected from a malignant disease of such magnitude,

* A tumor, when connected with muscles, can be moved laterally, or at right angles with them, even when they are made tense, and I have known surgeons relying upon this test alone, to be deceived in regard to the mobility of a tumor, when the mistake might have been prevented, had the muscles been put upon the stretch, and the attempt to move it in the direction of their fibres been properly made. By omitting to follow this method mistakes have been committed in regard to the mobility of schirrous mammæ, and unfortunate they are, for adhesion to the pectoral muscle is a circumstance which, if it do not absolutely forbid, at least throws great doubt over the propriety of an operation. When that contingency exists, I believe the disease always returns; such have been the teachings of my own experience and observation. The operation may indeed prolong the patient's life, but after all it will be but very nicely balancing between two evils.

and of so long standing. We were therefore inclined to the opinion that it did not belong to that class. From the slight inequalities observed in the space between the mastoid and trapezins, the tuberculated sarcoma of Abernethy suggested itself to our minds; *but as there were no other tumors of any description to be found*, that suggestion was not entertained. Medullary sarcoma was also mentioned, but not taken into the account. It particularly lacked that feel of fluctuation which is so peculiar to that sort of malignant tumor, and which is so apt to deceive the surgeon, especially if he be not one of considerable experience in such cases. Was it a strumous enlargement of the lymphatic glands of the neck? Its location at the commencement; the red flaxen hair, delicate skin and fair complexion of the child seemed to favor that idea; opposed to that view, however, it was considered that there was no affection of the eyes or ears; no tumefaction of the upper lip or abdomen; no articular disease, no irritation of the mucous membranes; none of that flabby softness of the muscles so characteristic of scrofula; no hereditary taint; *no tumor in any other part of the body;* no change of color, tenderness, pain or signs of suppuration in the tumor itself; that she had resisted the ordinary causes of indisposition, and enjoyed as good health as children in general; that struma in children is never confined to one part; for these considerations, the supposition that it might be a strumous affection was dismissed. If it were not strumous or malignant, was it adipose sarcoma? To this opinion we were inclined, as the most probable. No diagnosis with which we were satisfied was made out; to be honest we did not know what it was. That it would kill the child if not removed, was a conclusion in which all concurred; therefore, the next question involved the propriety of an operation, which must of necessity be protracted and severe, and considering the location and size of the tumor, and the tender age of the patient, extremely hazardous; but by taking time and giving frequent respites from suffering, the conclusion was that she would not sink under it, and as such subjects, if they do not succumb beneath the shock, generally recover, we were in favor of proposing the operation, and after stating all the contingencies, let the parents and friends decide; these decided in the affirmative; the little patient herself, who was very intelligent, also desired it.

Operation.

The parts to be more particularly regarded in the operation, were the carotid artery, internal jugular vein, trachea, œsophagus, and thyroidals:—inferiorly; the subclavian, supra-scapular, transversalis colli and nerves in the supra clavicular region.* The probable situation of the tumor, behind the deep cervical fascia, and consequently in contact with all these important parts, or only separated from them by a layer of condensed cellular membrane, greatly enhanced the difficulty and danger of the operation. The patient, wrapped round and round in a piece of cloth, which was pinned so as to confine her arms and legs, was laid upon the table upon her left side.† An incision was made through the integuments extending from the clavicle, a little in advance of the inser-

* The deep fascia, in all its relations and connections with the tumor and o er parts, was contemplated with the most anxious attention.

† In operations upon children, I am in the habit of resorting to the above described method of confining their limbs. If well and properly done, it makes the body and limbs all one piece, and gives us a perfect control over even a lusty boy.

tion of the trapezius, near to the point of the mastoid process.* The middle of this cut was curved backward to the anterior edge of the trapezius. The original plan was to expose the tumor by a crucial incision; the longitudinal cut being crossed by another running from the spinous process of the fourth cervical vertebra to the trachea, dividing the cervical portion of the trapezius, and the mastoid and omo-hyoid muscles; the divided extremities of which, with the deep fascia, were to be dissected back from the tumor, the anterior surface of which was to be thus exposed. The posterior limb of the transverse incision was dispensed with, and the curve in the longitudinal substituted. As the vessels which supplied the tumor with blood, might be derived from the occipital, superior, and perhaps from the inferior thyroid, and also from the supra-scapular, it was designed, in that plan, to commence the dissection for detaching the tumor on its upper side, and carry it round on its inner, lower, and lastly posterior sides. This part of the plan was in accordance with a rule of surgery laid down in a former communication to this journal, to which I would refer the reader. As the vessels in children are small, the rule is of less importance in them than in adults, and in this operation it was not adhered to. The subjacent fascia was then opened and divided, by cutting from within, a director being passed beneath it. The surface of the tumor thus exposed, exhibited a tuberculated appearance. Although the tubercles themselves seemed each to be enclosed in a very delicate membrane of its own, yet the tumor, as a whole, had no envelope except what was formed by the condensation of cellular membrane caused by the growth and consequent pressure of the tumor. In some places this general envelope was more distinctly marked than in others; and there it enabled us to discriminate and separate with facility the morbid from the sound parts. The cut edge of that portion of the deep fascia which extends under the trapezius backward to the ligamentum nuchæ and spinous processes of the cervical vertebræ was raised, and the handle of the scalpel insinuated between the fascia and tumor, and forced upward, and downward, and backward, by which means room was readily made for the introduction of a finger, and also the curved spatula, by which the fascia and tumor were drawn asunder. The handle of the knife was again introduced, and the cellular substance pushed before it until it accumulated, and became so condensed as to resist the progress of the instrument, when the accumulated bands, thus firm and resistant, were severed close to the tumor by the edge of the knife. The tumor was thus separated from the fascia beneath the trapezius, and from the ligamentum nuchæ, and spinous processes, and drawn forward. In detaching it from the transverse processes, which could now be readily felt, care was taken to avoid the superficial cervical artery, which runs near those processes. Although that vessel must

* This incision was made as follows: A transverse fold of integuments was pinched up and divided with a bistoury passed through it and its adherent side, and brought out at its duplicature. The fold on each side being released from the grasp of the fingers, the incision was extended above and below to the points mentioned. This method of cutting from within outwards, has, especially in children and timid people, much to commend it to the consideration of the surgeon. It gives less pain; is more rapidly and precisely executed, and furnishes the landmarks by which subsequent incisions may be made, and regulated, and prevents the necessity of repeated touches of the knife, every one of which gives almost as much pain as the original cut. I took the hint from Dessault, and have practised upon it as much as possible, through the whole of my professional career.

be very small in such a child, yet the caution was deemed not unnecessary, as a bleeding from even a minute artery in that place might be troublesome and difficult to arrest; therefore the tumor was pulled from its bed, and the fingers thrust beneath it and brought round, while the handle of the knife was employed in pushing the cellular substance away from it (the tumor), by which it was detached from that part without hemorrhage. As has been stated, the original plan was to commence dissecting on the upper, anterior and lower sides of the tumor, where it was supposed we should find the vessels that supplied it with blood; but from the nature of the tumor, it was obvious that no blood would strain through it; that part of the plan was therefore also abandoned, and the operation commenced and carried on as described, until the posterior half of the tumor was separated from the surrounding parts.

The separation was continued from behind forward, and the tumor drawn up as far as possible from the clavicle and the blood-vessels and nerves in that region. While the tumor was pulled and held away from them, the handle of the knife was continually employed in pushing them and the cellular substance away from it (the tumor), and also in being passed along its surface, until its progress was arrested by the accumulation of cellular bands, which were then divided as before described. By thus dissecting from behind forward, and from below upward, the tumor was considerably loosened, but not enough to be drawn out as we had hoped it might be from behind the omo-hyoid and mastoid muscles, which were therefore divided in the following manner: The handle of the knife forced in between the tumor and the deep fascia, which lay betwixt it and those muscles, made room for the introduction of the finger for the purpose of exploring the parts; and as no vessel of importance could be felt, the bistoury was introduced, and the muscles and fascia incised, and their divided extremities dissected up from the tumor, which exposed a considerable portion of its anterior surface. In this stage the curved spatulas were found very useful in holding back the muscles and trachea, away from which the tumor was at the same time drawn and held. In this position of the parts, the cellular substance was detached, and pushed away from the tumor with the handle of the knife; the finger was also introduced, and carried along in one direction or another, pushing before it portions of the connecting medium, until it accumulated so as to stop its further progress, when it was divided with the knife as near the diseased part as possible. By pushing the circumjacent tissues from the tumor, the connecting bands and vessels were so attenuated as mostly to give way to the pressure of the handle of the knife; such as did not were cut near the tumor, and consequently at a considerable distance from their origin, by which means all were reduced to the state of lacerated or insulated vessels which do not bleed.* In this manner the dissection was carried on to the trachea and larynx, from the side of which, and from behind and between them and the œsophagus,† the anterior edge of the tumor was

* Upon this simple principle of insulation may be explained the phenomenon that large arteries, as the axillary and femoral, do not bleed when the limbs to which they belong have been torn away by machinery.

† This interposition of a portion of the tumor, between the trachea and œsophagus, explained an unusual prominence of the trachea and larynx, which was noticed, but which, as there was no particular difficulty of swallowing, was not regarded, as it ought to have been, when settling the relations of the tumor. No particular inference was drawn from it.

separated with less difficulty than could have been anticipated, owing to a special arrangement of the deep cervical fascia in this part, which passes directly from the trachea to the œsophagus, without dipping into the space between them, which is somewhat triangular (the fascia, trachea and œsophagus, forming the three sides), and is filled with adipose matter. This disposition of the fascia, moreover, secured the inferior laryngical nerve which passes up between the trachea and œsophagus to the larynx.* The dissection was pursued in this way until the tumor was wholly insulated, detached and removed. Recognizing in it a morbid structure (the tuberculated sarcoma of Abernethy), which was apt to return, great care was taken to remove everything of a doubtful character which could be suspected as making a part and parcel of the diseased mass, and this part of the task was rendered extremely difficult by the resemblance which some parts of the tumor bore to common fat. In this, however, we were assisted as has been suggested by the lobules being each enclosed in an envelope of its own, and bound together by very firm whitish bands.† The difficulty alluded to, rendered the operation much more tedious and protracted than it would otherwise have been. After the removal of the tumor,‡ while searching the cavity to ascertain whether any portions of it had been left, we discovered the common carotid and internal jugular vein, the subclavian artery, and the nerves going to the axilla, in a frightful state of nudity, and right glad were we to get out of a field of action with the tumor as a trophy, in which we had had so many hair-breadth escapes, that even curiosity lingered not to look for parts of minor importance, which we had never desired to see, although they had been the subjects of much anxious consideration. Notwithstanding the little patient had been on the table an hour or more, less than half of it had been consumed in the operation proper, frequent opportunities being given her to rest. Once it was suspended for some time, in consequence of an apprehension that she was actually sinking; by taking stimuli she revived, and the opera-

* Many years before, the writer dissected out a tumor, one limb of which, nearly half an inch thick, and an inch and a quarter or half broad, had passed flatwise through the interstice between the trachea and œsophagus and showed itself more than half an inch on the opposite side. It had been very gradual in its growth, and lay in a sort of sheath or cyst (itself encysted), formed by pushing this fascia before it; from which it was rather easily turned out. It had considerable firmness, and occasioned, particularly at times, much difficulty of breathing and swallowing, especially the former; but on the whole, less than might have been supposed, owing to the slowness of its growth. It is well for every surgeon to make himself familiar with this arrangement of the fascia, for it will give him much additional boldness in attacking tumors in those parts.

† The tubercles composing the morbid mass were connected so as to form one common body, by the membranes that enveloped each, furnishing a band which extended to a morbid structure, fibrous, firm, dense and white, which formed a bond of union to the whole congeries. By the color and firmness of these bands we were enabled to discriminate between the tubercles and the adipose matter, which they very much resembled. Whether this dense, firm, white connecting medium furnishes a distinctive pathognomonic mark, by which tuberculated sarcoma may be diagnosed, I cannot say, not having had sufficient experience to warrant the conclusion; generally considered, however, white bands in morbid structures are but too surely indicative of malignity.

‡ For the sake of convenience, the tumor has been spoken of as a whole, but it should be understood that it was tuberculated, and that the description of the operation has all along a more special reference to each lobule or tubercle of much size, situated on the periphery of the morbid mass.

tion was resumed and completed. The fortitude with which she bore this appalling operation was truly womanly and wonderful. The wound was dressed in the ordinary way, and healed almost entirely by the first intention. I regret to be obliged to say that the disease returned and destroyed the patient. A letter dated Boonville, July 14, 1846, from Ralph Lord, M.D., who was her attending physician, states, "that some six months after the operation, the scrofulous diathesis seemed to develope itself more fully and rapidly; other glands commenced enlarging, and from the nest where you cut out the first tumor, another sprung up and grew rapidly until it occupied the whole side of the neck, from the median line in front to the median line in the back of the neck, and from the ear to the joint of the shoulder. It soon became indurated, inflamed; the surface taking on a dark livid hue; finally, about a year ago, it broke out and commenced discharging, and soon ran her life away." Due caution was observed to prevent the admission of air into the veins.

By operating as above described, I have great confidence in the opinion that almost any morbid structure of a distinct organization may be removed by operation with safety, from nearly every part of the body, except the great cavities, provided the surgeon is cool, collected and deliberate, and withal perfectly acquainted with the anatomy of the part or region. Although the plan of an operation is seldom strictly adhered to in its performance, still I cannot help thinking that it is important for the surgeon to have one that is well digested in his own mind at least, if not written out for his guidance in such as are difficult and dangerous. He must, it is true, be governed by circumstances; still a plan will give him a boldness and promptitude in execution which few can possess without it. It is truly distressing to see a surgeon operating without such preparation. He cuts a little here and a little there; pulls this, and pulls that, and finally gets involved in perplexities and difficulties which he did not anticipate, and from which he knows not how to extricate himself, until at last, in desperation, he either commits a disastrous blunder, or abandons his job not finished, or but half done. Poor patient! unhappy surgeon!!

Drs. Lord and McVicker, Potter and George H. Batchelder, assisted in the operation.

84 *Chambers Street, New York, August* 6, 1846.

ART. XI.—*Typhoid Termination of Acute Inflammation.* By G. C. MONELL, M.D. Newburgh, Orange Co.

IT is well known that many persons die annually, at all seasons of the year, and in all parts of the country, of a disease, called Typhus Fever; nor is this the pure, idiopathic form of Typhus, but a secondary affection, setting in (as it is said) near the termination of common continued fever, or of acute inflammation. It is not unusual to hear of a patient being attacked with severe local inflammation, and again, in the course of two or three weeks, or perhaps longer, to hear that Typhus has set in where there is but little hope of recovery. These fatal terminations

are regarded by many as allied to common continued fever, and as caused by atmospheric influence of some sort; but when we reflect that such a termination may occur in any acute disease, and at any season of the year, we cannot consistently charge it upon miasm, but are compelled to search for the cause, either in the unavoidable progress of the inflammation, or in our own erroneous treatment of the patient. A careful investigation of the latter cause will result, I think, in the conviction, that the Typhus termination of acute inflammation, so common in most places, may be traced to an inefficient treatment of the original disease.

It may be proper, before proceeding further in our inquiry, to determine upon some name by which the condition about to be discussed, shall be designated. The common term Typhus, if confined to its original signification, is as good, perhaps, as any. But inasmuch as this term is frequently employed to denote a specific fever, uniform in its character and generally prevailing as an epidemic, there is a manifest impropriety in applying the same name to a condition so different, as is the one under consideration. A pure adynamic fever is undoubtedly characterized by many symptoms very similar to those of the typhoid termination now spoken of, and if the two should occur together there might be difficulty in the diagnosis; or, at least, in determining how much of the symptoms might be owing to a general febrile influence, and how much to the local disease; for we are not to forget, that certain atmospheric influences operate, at times, upon the purest local inflammations, which then manifest a well marked tendency to assume the general characteristics of the prevailing epidemic. The tendency in these cases, however, is manifested so early in the disease, as to afford a very important indication of the prevailing influence. It will also be borne in mind that there are epidemics, well marked in their symptoms and limited in extent, for the time at least, to certain sections of the country, and certain seasons of the year. They are caused by miasm, and not by debility induced by previous disease. It may, also, be remarked that, in these cases, the local inflammation is not usually a primary affection, but is itself secondary to the Typhoid condition, and if primary, it is so stripped of its usual symptoms by the depressing influences, as to appear of minor importance. The powers of life in the Typhus termination we are now considering are overwhelmed, but not destroyed by the severity of *previous* inflammation; the blood is gradually rendered impure, the secretions become morbid, and almost every organ becomes unable to perform its functions. These secondary results, again, exert a reflex influence upon the organ first inflamed, and the vital powers gradually yield to the immediate and remote effects of disease unarrested in its course, and therefore, in the end, resisting the recuperative powers of nature, or the curative efforts of art. In true Typhus, on the other hand, there is usually little or no evidence of local inflammation at the onset, and the fever frequently progresses to its final termination, whether favorable or fatal, without manifesting the slightest evidence of local lesions; and when local disease does exist, it is not developed, as before remarked, until after the fever is distinctly diagnosed as Typhus. Even the inflammation of the follicles of the intestinal canal, so constant in the Typhoid fever of Louis, is evidently an accompaniment, and not the cause of the other appreciable phenomena. A well marked distinction, then, is that the former *commences* as a

pure inflammation, whether general or local,—it may be pneumonia, or it may be small-pox;—occurs at any season, and resembles Typhus only in its *latter* stages, and while the inflammation is evidently progressing unchecked in its course. The condition is *secondary*. In the latter case, the depressing influences are prominent from the very first, and the local inflammation, if any occurs, is almost latent as to symptoms, and, even when prominent, a secondary complication. The *Typhus is here primary*. If, therefore, there is a sufficient similarity in the two diseases to justify the use of the same or a similar name, we would not be far wrong, perhaps, in calling the one *primary Typhus* and the other *secondary Typhus*. But believing that the secondary disease has not in any of its stages the essential characteristics of true Typhus, there is, to my mind, a strong inconsistency in applying the same word. But as *there is* a resemblance in some of the prominent symptoms; and inasmuch as the word has been used to express this state, we may say that it resembles Typhus, and according to the practice in other cases, we may adapt a word to this condition, and if we take the Greek ειδος, and add it to the one already used (τυφω), we will have the word Typhoid—or a fever resembling Typhus. But even this would fall short of our true meaning, for although it does resemble Typhus in a few of its external symptoms, though there is an apparent debility, yet the stage of the disease and the circumstances under which these symptoms appear are so entirely different, that the single word Typhoid would continue to convey, as the word Typhus now conveys, to very many practitioners, erroneous and fatal notions of its true features. But if we add to the word already named, another expressing the stage of the disease at which these symptoms are manifested, we will have a name that can scarcely mislead any one. I would call it *secondary Typhoid*. It may appear to some, that it is objectionable to retain the old word in any form, from the fact that it conveys false notions of debility to the minds of many, and that therefore some other should be used, or added, expressing its inflammatory character. There is truth in the objection, and it would probably express the correct condition better, to call it inflammatory Typhoid, or sympathetic Typhoid, or accidental Typhoid, or still more expressive, inflammatory secondary Typhoid. To each of these there are strong objections.

I am well aware that objections, perhaps equally strong, may be brought against the name first suggested. But it is difficult, if not impossible, to select any name which will not be liable to objections equally strong, and inasmuch as we must call it something, I will call it, as first suggested, secondary Typhoid; the word inflammatory might be added, but as I contend that the disease does not occur except as caused by inflammation, it would be making it unnecessarily long. Indeed the mere name is of but little importance, provided we have proper ideas of the disease itself, and the name conveys no *false* inference in regard to it. The objection that several writers on the specific Typhus, occurring as an idiopathic fever, have called it Typhoid, I do not consider important. The condition we are describing is a fever of some sort, and as it resembles Typhus nearer than any other, we are correct in calling it Typhoid, although the same name has already been used to designate the fever accompanied by, or as some contend, caused by disease of Peyer's glands. This peculiar form, it appears to me, should

be designated as *abdominal Typhus;** the ordinary Typhus of this country partaking of this condition simply Typhoid; and the condition we are describing as following acute inflammations would be readily recognized either as inflammatory or secondary Typhoid. But without spending more time on the name, let us proceed to the more important points; the disease itself.

Symptoms.—It will be borne in mind that we are considering a condition of disease following a state of acute inflammation. The inflammation may assume the form of idiopathic fever, or it may be confined to a single organ. We would prefer, for the sake of simplicity, to consider the result of local inflammation alone. This would, however, take from the subject much of its practical importance, and we shall therefore include the Typhoid termination of simple inflammatory fever; yet to avoid unnecessary discussion, or possible ambiguity, our remarks will be limited to those conditions which display a well marked inflammatory diathesis during the first period of this development, carefully avoiding such as present from the beginning symptoms of debility. The examination is thus brought within a narrow compass, yet probably embracing the main points of practical value in the subject before us. It is unnecessary to repeat the symptoms of inflammation; they are well known, and can scarcely be mistaken. Premising then—and it is important to bear this in mind—that inflammation has existed for a longer or shorter period, we have presented an entire new train of phenomena, regarded by many as tokens of permanent debility, requiring stimulants and tonics, but which I regard as the progressive course of the primary disease, and requiring a similar though modified course of treatment, as would be proper for the original affection.

The Pulse will generally become more frequent; yet there may be an exception to this in those cases where it has been increased in frequency from the first, when it may afterwards be reduced in frequency. This is not insisted upon as a rule, yet it will be found nearly correct. One rule may be insisted upon, however, so far as my observation extends, that is, that the pulse is more frequent than in health; it is a frequency that conveys the idea of irritation rather than weakness; it is a hurried frequency, very different from the languor of debility. In addition to this, there is a *sharpness* of the arterial pulsation, difficult to describe, but corresponding in marked degree with the expression of the countenance. This latter remark may be a mere matter of opinion, yet it is impressed upon my mind with a considerable degree of certainty. This sharpness of the pulse, arising from progressive inflammation and deteriorated secretion, can scarcely be confounded with the feeble quickness of true debility, by a physician who will calmly and candidly examine the two without being influenced by previous prejudices. It is an important feature in secondary Typhus, and would of itself suggest an important principle of practice.

The pulse, as might be readily inferred, is also much more compressible than in the earlier stages, when the vital powers were more active. The destructive progress of the disease depresses the pulse just in proportion as the general system is affected, and thus we find every variety, from the hard and resisting pulse of well-developed inflammation, to

* We have suggested this name in our notes to the article "Typhoid Fever" in Copland's Dictionary of Medicine.—(Ed.)

the comparatively soft and compressible one of vital depression. We should also bear in mind that the organ primarily inflamed, influences to a greater or less extent the character of the pulse, even after the secondary symptoms have assumed a well marked prominence, even "the different texture of an organ, when inflamed," as well remarked by Dr. Wardrop (on blood-letting), "is attended by some peculiarity of the pulse," and this peculiarity frequently continues, in less extent of course, during the development of the so-called symptoms of debility. In all cases, so far as my observation extends, there is a certain degree of *hardness* of the pulse, which persists until near the fatal or favorable termination of the Typhoid condition. The artery may be compressed with apparent ease, its volume may seem small, yet a careful touch will detect no *real weakness*. Now, does this accord with the pulse we have reason to expect, or that experience has taught us to exist in a state of debility? By no means. This feature of the pulse,—its hardness,—is too often overlooked; the physician notices a *small* pulse, and unfortunately connects this condition with the idea of weakness, and when he sees, at the same time, the *apparent* prostration of his patient; the dark tongue, the coated teeth, and sunken countenance; it is not to be wondered at, after all, that previous notions of debility should prevail. It is highly probable, however, that nine out of ten, judging by the pulse alone, without seeing the patient or knowing the history of the case, would be very far from administering brandy and bark. Let the physician then, when he examines the pulse, do it carefully and with discrimination.

The Tongue.—Another important change which appears at this stage of the inflammation, is in the state of the mouth and tongue,—a change that gives abundant evidence of contamination of the blood and secretions. The tongue, which had been previously moist and probably white, gradually becomes dry and brown, like smoked beef, or perhaps nearly black. It may also present a red streak through the middle or edges, or, in some rare cases, appear smooth and red, before the brown coat accumulates.

The state of the tongue, like the heat of the pulse, will vary somewhat according to the organ or tissue inflamed, but whatever appearance it may assume, it never resembles the pale, flabby tongue of true debility. The *teeth*, which had been clean or slightly coated with a slimy mucus, become loaded with sordes, which, taken with similar accumulations common about the mouth and lips, is very different from the condition of these parts in true debility. The heat of the skin is somewhat reduced, but it remains equally dry, except in the latter stages, when there may be profuse perspiration. But this is a morbid secretion, and is no evidence of a favorable termination, but seems rather to add to the general distress. While the skin remains dry, it assumes a darker hue than during the early periods of the attack, but if copious perspiration occurs, it becomes pale. The muscular system becomes more and more prostrated; this, however, is more apparent than real, for it recovers wonderfully quickly, when a favorable change takes place. This apparent weakness of the muscular system, probably more than any other symptom, conveys the impression of real weakness of the whole system. It is, however, deceptive, as we well know that instances daily occur in which the strength, though greatly prostrated, is immediately restored by free depletion; a sufficient evidence that it was a temporary prostration only. The strength, in the case before us, can-

not be restored with the rapidity we expect, when the depression is primary, because we now have the deteriorated secretions to correct before healthy action can be resumed. The most effectual means, however, of restoring the deteriorated secretions, will be by removing the load that oppresses the vital powers. The condition of the bowels will depend somewhat upon the seat of the primary disease, but if they have not been properly evacuated, diarrhœa will almost necessarily appear, very different, however, from that of debility. The previous history of the case as one of well marked inflammation, renders unnecessary any minute statement of the less constant symptoms. If we were to judge by any one of these already enumerated, it is easy to imagine how a careless observer might suppose a state of debility to exist; but if we take them in conjunction and compare them, with our experience in other pathological conditions, and especially with our previous knowledge of the case before us, it is an inexplicable philosophy that sees nothing but debility, and suggests nothing but stimulants. We argue, then, from the symptoms, as well as from the history of the case, that debility is not the disease, but that the original inflammation is progressing with increasing severity, and that the powers of life are yielding to it and not to weakness.

It has been urged that the subsidence of pain, in the case of local inflammation, was evidence that the true primary inflammation had ceased, and the organ was now only suffering from debility induced by disease. But if the inflammation has ceased, and the system is thus really in a better condition, why are these alarming symptoms developed at a time when there should be decided amendment? Is it because the stimulus of increased action is removed? Certainly not! For both symptoms and post mortem appearances forbid this conclusion.

It should also be borne in mind, that if there is less *local* evidence of inflammation, it is because there is less general sensibility. The deteriorated blood and secretions are now exerting a benumbing effect, and therefore it is that the usual evidences are less apparent, and symptoms of a false debility more prominent. We draw a still further argument from the following consideration; we state it in the language of Dr. Armstrong (on Typhus, p. 95). "There is generally a remission of the fever in simple Typhus towards the morning, and the patient will almost always be much less oppressed at that, than at any other period of the day; but as the excitement gains ground, the debility increases, and may be observed to be the greatest when the exacerbation is at its highest point in the evening." This goes far to prove that the debility is to a certain extent fictitious, and caused entirely by an *existing*, and not a *past* excitement. And what do the effects of remedies prove in this case? As a general rule the administration of stimulants aggravates it in a very marked degree, and although the dose is double, the remedy fails in almost every instance. The want of success among that class of practitioners who resort to stimulants is well known; and the reason is, that they have the ghastly phantom of Brown always before them, thus inducing the very state they regard as almost necessarily fatal. And this leads us to dwell for a moment on the *cause* of this secondary Typhoid condition. I would here state as a general remark applicable as an exception to all that may follow on this head, that the inflammation, whether local or general, may be of such severity as to resist every remedy, and from the very nature of the case necessarily proceed to a fatal termination; and this may be accompanied either by symptoms of

ordinary inflammation, or of supposed debility. I fully believe, however, that in this case it will be rare, very rare, to witness Typhoid symptoms. But if the disease has been suffered to proceed without active treatment, or has been improperly treated, then the Typhoid termination will be very constant. Dr. Gallup states one cause, or we might say the whole cause; speaking of Synochus, he says, "The phenomena exhibited toward the close of disease of a typhoid appearance, in fatal cases, are factitious, and the result of a stimulating, or incendiary treatment, or the neglect of proper treatment. This we are well assured of by long observation, and we do insist, that when such treatment is withheld, and the obvious anti-pyrectic is used, no such typhoid appearances occur." (Institutes, p. 238.)

The same ground was taken by Armstrong, and maintained by a long experience, and a sound philosophy. He does not dwell with that minuteness we could wish on the secondary symptoms as separated from the primary, but his whole work on Typhus fever, and his subsequent lectures, more especially on venous congestion, will remain a rich mine of inexhaustible treasure.

Dr. Dewees says, "We are perfectly convinced, from long and carefully made observation, that the fever almost universally called Typhus, is, for the most part, of artificial origin; and further, that it is constantly in the power of improper management to convert the most inflammatory fever into this much dreaded state of the system," "to effect this terrible change, for such it really is, it is only necessary to deplete insufficiently, or to overstimulate during the phlogistic state of the system;" and again, "a dry, dark tongue; a hot skin; a flushed face; a tendency to delirium; and an irritated pulse, are sure to be called Typhus." Stimulating and tonic remedies are resorted to, and the system is goaded into gangrene, and the patient into the grave, in the course of a short time."—(Practice of Physic, p. 130-131.) He goes still further, and states most expressly that he had never witnessed in his practice, that state of fever called Typhus by many, except where the previous inflammation had either been badly treated or neglected; and none will dispute the skill or honesty of Dr. Dewees. Tweedie speaks in language equally precise. "I am convinced," says he, "that such symptoms are frequently *brought on* from the neglect of early evacuations, and the cooling treatment in the beginning of the disease." (Tweedie's Illustrations, p. 167.) Such declarations should at least induce the stimulating physician to pause and think well of his practice in these cases. Foucart, speaking of inflammatory affections of old people, says, that after *failing* with tonics and stimulants, he resorted to bloodletting. He then no longer witnessed "la developpement de l'adynamie." (Archives Gén., Juil., 1824.) We shall presently quote the energetic language of Southwood Smith inculcating the same view. Professor Lee of New York tells us that those fevers "denominated Typhus, are generally manufactured or made thus by improper treatment." (American Jour. of Med. Scien., vol. xix., p. 32.) He further adds that "fevers of a purely typhoid character from the beginning, are almost unknown at present in New York," and this statement is substantiated by several others of equal respectability. Indeed there is no evidence, that typhus commencing as such from the beginning, has existed in New York for more than a quarter of a century. There may be an exception to this, when about ten years since a few cases of Typhus appeared in the New York Hospital, but they were all contracted

in Ireland. Notwithstanding this well established fact, the number of deaths reported in New York, from nervous and typhus fever, during the same period, is over three thousand. Authorities without limit, might be adduced to prove that acute inflammations and venous congestion, when badly treated in the earlier stages, almost constantly assume an aggravated and generally fatal intensity. Practitioners who follow the example of Rush and Jackson, and a host of other kindred spirits, see but little, if any, of acute inflammations or simple venous congestions degenerating into debility. They look upon the inflammation as a more certain cause of debility than the remedy, and attack it with a vigor that diminishes not, until the system is relieved. Those, on the other hand, who see the terrific phantom constantly before them, and relax their antiphlogistic remedies from fear of weakness, are the very ones who show us most of the disease. Boisseau remarks, and it has the more weight coming from a Frenchman of that period,—"experience daily proves that from the neglect of this curative measure (bleeding), the inflammatory fever degenerates into gastric, adynamic or ataxic fever. (On Fever, p. 95.) Gordon states the same of puerperal fever. (On epidemic puerperal fever, p. 78.) So also Baudelocque (puerperal peritonitis, p. 326-7). M. Chailly, R. Lee, and many others hold similar language, and several speak directly of the secondary typhoid symptoms in the same terms *

It is unnecessary to dwell at great length on this part of the subject, as it will be inferentially considered when describing the treatment. We make a single remark, however, on the pathology. My opportunities for post mortem examination in these cases have not been sufficiently numerous to establish any very uniform appearances of other organs than the one primarily affected. In six out of ten fatal cases, the typhoid symptoms supervened on inflammation of the lungs; in three of these, the fatal event was evidently accelerated by habits of intemperance. In all, the lungs presented various stages of disease from simple congestion to entire disorganization; purulent infiltrations being most prominent. The right cavities of the heart were distended with blood, and in one instance fluid blood. The brain, stomach, liver, and intestines, presented various conditions of infection or disease, but it was impossible from so few cases to deduce any general results.

In one instance the pneumonia had been actively treated by Thomsonian stimulants for a fortnight, when Typhoid symptoms appeared, and death closed the scene in about four or five days. I examined this body, as far as allowed, with care, for I believed the death to be caused by uncured inflammation, aggravated by destructive remedies. Right lung adhered, throughout, to the diaphragm and pleura. The lower lobe was completely gorged with black blood, and nearly disorganized —rotten: the middle lobe equally gorged, but altered in structure: upper lobe congested, but less altered—it was ordinary congestion. Left lung slightly congested in the upper portion, becoming more advanced in hepatization as we descended, the lower part being nearly solid, and adhering to the pleura, which was more or less inflamed throughout. Heart nearly natural, perhaps a little dilated and flabby. Stomach

* The subject of puerperal fever, with perhaps the single exception of pneumonia, is one of the best illustrations of our position. The experience of the best practitioners establishes beyond dispute, the value of thorough depletion, and the danger of half way remedies. See Denman, Walsh, Manning, Millar, Clarke, Cooper, Hume, White, Dewees, Lee, and Chailly. The latter experience of Hey is most instructive (Hey on puerperal fever).

empty, and congested through its whole extent, with occasional spots where the mucous membrane was softened and easily abraded. The intestines presented very much the same appearance, except that the softening was more extensive. The glands of Brunner were also inflamed to a considerable extent. Here, as far as the lungs are concerned, we have a case of simple pneumonia, progressing, or rather hurried, to a Typhoid termination, and the post mortem appearances justify our position as to the production of the dreaded debility. The appearances of the stomach and bowels may have been, and probably were, owing to the lobelia and pepper. Another case was puerperal peritonitis, which plainly progressed from simple inflammation to purulent effusion. Blood-letting was practised, but not early in the disease, neither was it carried to a sufficient extent. Typhoid symptoms supervened the fourth week, and death followed in a few days. We were not permitted to examine more than the abdomen, but the appearance of the peritoneum, and more especially where it covered the uterus and ovary, gave weight to the opinion I have mentioned. These examinations are not offered as affording any conclusive ground for defending the points advocated in the present inquiry. They have a weight with me, however, seeing as I did many of the attending circumstances, which they cannot have from the mere narration. But, aside from the post mortem appearances, there is reason to believe, judging from the symptoms alone, that the secondary Typhoid condition is almost always accompanied with inflammation of the lining membrane of the bronchial tubes. This lesion was uniformly present in the fatal cases already referred to; yet from the nature of the primary inflammation, and other circumstances attending, a bronchial irritation might have reasonably been looked for, aside from the Typhoid condition.

I am unable, from the limited observations I have made, to state whether this lesion may be a cause or consequence of the deteriorated blood and secretions. It probably may be either; yet I am inclined to believe that the mucous membrane of the bronchia and lungs becomes sensibly impaired in its functions previous to any well marked invasion of Typhoid symptoms. It is not to be inferred from this, that bronchitis alone will cause the Typhoid condition; for we know that bronchial inflammation, whether active or passive, may exist in all its stages, as a pure inflammation; yet, when we consider the important function performed by this part of the system, and consider also the havoc already made on the vital powers by the previous inflammation of any important organ or tissue, we are justified in attaching great importance to the condition of the bronchial mucous membrane. The chest should be explored frequently and carefully, and any evidence of inflammation should be attended to without delay. We have said that bronchitis *generally* occurs: we believe, also, that in a smaller number of instances, the brain is inflamed; yet the symptoms attributed to disease of this organ may be owing, in part, to the poisoning effect of deteriorated blood. Other organs, and especially the mucous tissue of other organs, may be implicated; and in all cases, the most scrupulous care should be exercised to detect any secondary inflammation. It is unnecessary to pursue this further; yet any amount of authority could be collected, to prove that common inflammation of an important organ may, by bad or inefficient treatment, produce symptoms closely resembling in many respects those

of true Typhus, and yet, upon careful investigation, be found widely different.

It is unnecessary to increase the size of this paper by speculations as to the proximate cause of this secondary condition; it is sufficient for our present purpose to establish a correct diagnosis between it and a true state of debility, and to inculcate a successful course of treatment. To determine the exact pathology of this state of the system is, however, a desirable inquiry, and which, though unnecessary here, would be profitable to the profession at large. The literature of the profession is in fact deficient on this head; we have a great deal about local inflammations complicating typhus, yet we have comparatively nothing of local inflammations degenerating into secondary Typhoid. And yet so far as my information extends, the latter is more practically important than the former. Hundreds die yearly among us, victims to this artificial disease—both physician and friends consoling themselves that it was true unavoidable typhus, whereas the latter disease is in fact comparatively rare; and though when it does prevail it desolates in darkness, and wasteth at noon-day, yet the very terror which accompanies its footsteps, urges the profession to close inquiry, as to its cause and cure. The secondary Typhoid, on the other hand, is an every day disease, stealing insidiously on the patient and too often on the physician, finally triumphs under circumstances which cause but little anxiety in regard to other similar instances, and consequently, there is nothing to compel a close investigation. The result is, that while the epidemic has been most accurately studied in all its bearings by the most talented in the profession, the disease of daily occurrence has passed by almost unnoticed; yet I doubt not if the victims of the two diseases could be accurately counted and compared, it would be found that the occasional desolations of the dreaded epidemic would not exceed the daily mortality of the secondary Typhoid. The number of deaths reported as occurring in the city of New York, from 1805 to 1836, includes 3602 attributed to typhus (that is secondary typhoid), and but 2486 from other specified fevers, although this period embraced the yellow fever of 1822. A comparison of the reported deaths for the last ten years would probably show a still greater difference. The proximate cause of secondary Typhoid is therefore a subject of paramount interest, yet it would require more space than we have at present to enter upon its consideration. The able dissertations of Professor Paine, of New York, though not coming exactly to the point now at issue, are still a most able exposition of many of the phenomena of the secondary Typhoid condition. We refer more particularly to his essays on bloodletting and venous congestion; and though perhaps unwilling to endorse all his deductions, any one who will carefully and critically read them will receive a profitable addition to his fund of medical knowledge and an expanded idea of medical practice (Medical and Physiological Commentaries, by Martyn Paine, New York). Avoiding, therefore, all speculative investigations, there will be less danger of an incendiary practice, and we thus more readily overcome the preconceived prejudices of early impressions, by an appeal to experience as observed by ourselves, and facts as recorded by others. We now approach the most important part of the inquiry, and shall endeavor to do so with all candor and fairness in treatment.

Previous to considering the treatment proper for the secondary Typhoid

condition, it will be necessary to revert for a moment to the treatment which should be adopted in the earlier stage of the inflammation. This course will be the more satisfactory because, as already remarked, I believe a reliance upon improper remedies, or a timid and vacillating application of even appropriate remedies, contributes largely, if not exclusively, to create those adynamic symptoms, so often supposed to indicate a state of true debility. It would be unnecessary to extend our investigation to every acute inflammation, for if we can establish the general principles we entertain, then the examination of inflammation in general will convey every important consideration; understanding, of course, that the treatment must necessarily be modified in its minor details according to the function of the organ or tissue primarily affected. It would be of some practical utility to inquire what local inflammations are most liable to be followed by secondary Typhoid fever; the inquiry, however, would be somewhat uncertain, and would also increase too much the size of this essay. For the same reason we shall omit a notice of the many modes of treatment recommended in accordance with the multiplied and varied theories of the proximate and exciting cause of inflammatory affections, and confine our remarks to such treatment as we consider worthy of most reliance, and shall endeavor to support that opinion by sufficient authority; premising, however, that we regard no authority as worthy of confidence, unless that authority is sustained by indisputable facts. A beautiful theory, however ably devised and however plausibly and eloquently defended, even by a great philosopher, is of no weight, unless sustained by the unerring authority of established facts. Great learning and bold deductions are not worthy of confidence, unless accompanied by sound judgment and proper discernment. It is according to the authority of facts rather than words, that we are to be guided.

(To be continued.)

PART SECOND.

Critical Analysis.

ART. XII.—*Report of a Special Committee of the House of Assembly of the State of New York on the present Quarantine Laws.* 1846. 8vo. pp. 317.

IN our No. for May, p. 452, we noticed the above Report so far as to give an abstract of the essential features of the Act recommended by the Committee to the Legislature for adoption; since then the act has passed, and is now a law of the State.

The Committee was composed of Messrs. D. E. Wheeler, C. Comstock and R. H. Hine, and they appear to have discharged their duty with commendable diligence and ability, although we must be allowed to differ from them in some of the conclusions at which they have arrived. In the course of their investigations, they addressed circulars to medical men, containing certain interrogatories, and answers were returned by Drs. Vache, Harris, Townsend, Francis, Sweetser, Manley, Hort, Wallace, Reese, Ruschenberger and Archer.

The opinions of the physicians do them much credit, but they are too voluminous for our pages. As might be expected, there is some diversity of views relative to the origin and propagation of yellow fever, although there is an unexpected harmony as to the measures which ought to be adopted to guard against it.

In addition to the testimony of the physicians above-named, we have the opinions of several ship-owners, merchants, and others engaged in trade and commerce, from which we gather that the present quarantine regulations are regarded as altogether more stringent than necessary, and that a relaxation of them would be supported by public opinion. Commodore Jones expresses the belief that no vessel should be quarantined, from whatever port or climate she may come, provided the crew are in health, and the vessel has been eight or ten days on her passage; that if there be any sickness on board, *the physician of the port can best decide, from the nature of the disease, the time and manner of the quarantine.*

Since the Report which we are noticing was presented to our Legislature, our quarantine laws have been modified and rendered somewhat less stringent than they have been for many years past. The present Quarantine Law for this port embraces twenty-seven sections, some of which, we regret to say, are of very doubtful expediency. For example—

"No vessel, found on examination by the Health officer to be infected with the yellow fever, or to have been so infected, after sailing

from her port of departure, shall be permitted to approach within three hundred yards of the city of New York, between the first day of May and the first day of October in the same year."

Again—

"Vessels arriving at the port of New York shall be subject to quarantine as follows:

All vessels direct from any place where yellow, bilious malignant, or other pestilential or infectious fever existed at the time of their departure, or which shall have existed at any place, and proceeded thence to New York, or on board of which, during the voyage, any case of such fever shall have occurred, arriving between the first day of May and the first day of October, shall remain at quarantine for at least thirty days after their arrival, and at least twenty days after their cargo shall have been discharged, and shall perform such further quarantine as the health officer shall prescribe."

The Health officer is invested with certain discretionary powers, but they do not reach as far as the cases above referred to. For instance—

The Health officer shall have power,

1. To remove from the quarantine anchorage ground any vessel he may think unsafe, to any place south of the quarantine buoy, and inside of Sandy Hook.

2. To cause any vessel under quarantine, when he shall judge it necessary for the purification of the vessel or her cargo, to discharge her cargo at the quarantine ground, or some other suitable place out of the city.

3. To cause any such vessel, her cargo, bedding, and the clothing of persons on board, to be ventilated, cleansed and purified, in such manner, and during such time as he shall direct; and if he shall judge it necessary to prevent infection or contagion, to destroy any portion of her cargo, bedding or clothing, which he may deem incapable of purification.

4. To prohibit and prevent all persons, arriving in vessels subject to quarantine, from leaving quarantine, until fifteen days after the sailing of their vessel from the port of her departure, and fifteen days after her last case of pestilential or infectious fever that shall have occurred on board, and ten days after her arrival at quarantine, unless sooner discharged by him.

5. To permit the cargo of any vessel under quarantine, or any portion thereof, whenever he shall judge the same free from infection and contagion, to be conveyed to the city of New York, or such place as may be designated by the mayor and commissioners of health, after having reported in writing to the mayor and commissioners of health of said city the condition of said cargo, and his intention to grant such permission; such permission, however, to be inoperative without the written approval of the mayor and commissioners of health.

We are happy to learn, that emigrants and steerage passengers from Europe are now permitted to come direct to our wharves, and that our present worthy Health officer, Dr. Van Hovenburgh, is not disposed to continue the burdensome, barbarous, and unreasonable practice of compelling all emigrants, from whatever port they may arrive, to be landed at the quarantine, there to be huddled together like flocks of sheep, exposed to the night air, or to the storms and hot sun of the season; then to be crowded on board of boats and lighters, and landed in the city wherever the convenience of the ship-owner may suggest. It is indeed

high time that this most abominable system, which has too long prevailed, should come to an end. It is one of the marvels of our age, that such absurd regulations as some of those connected with the quarantine of our city, should have been tolerated to the year of our Lord 1846. We will advert to a *few* of the *modern* decisions of our Board of Health.—It has been decided that *sugar* in *casks*, coming from Havana, New Orleans, &c., in a *healthy* vessel, need not be removed to some place out of the city, nor undergo the process of purification; but that sugar in *boxes*, coming from such ports, though in a healthy vessel, must undergo ventilation and cleansing. It has been decided that sugar, both in casks and boxes, coming from such ports in a vessel in which any death has occurred on the voyage, cannot be landed in the city, but must be taken somewhere else, and be ventilated and cleansed. Stranger still, it has been decided by our Board of Health, that *iron*, *lead*, and even *tobacco*, coming from such ports in vessels, in which deaths have occurred during the voyage, must be *ventilated* and *cleansed!!*

We have known an instance, where a merchant applied to the Board for permission to bring 20 puncheons of *rum* into the city from Brooklyn, which was imported from New Orleans in a vessel in which several persons died on the voyage; but it was decided that it could not be safely brought over. *Smoked hams* and *tongues* on board the same vessel were condemned also, as unsafe articles to be trusted within the limits of the city.

Vessels arriving from ports where yellow fever rarely if ever prevailed, and loaded with *logwood*, have, on their arrival, the crew and passengers all being in health, been subjected to quarantine, the cargo of logwood put on board lighters and taken to Brooklyn (devoted city!) and there stored. Permission was asked by a firm in this city to land some coffee, which arrived from the West Indies, on board a healthy vessel; it was denied on the ground that if consent was granted, the Board of Health might be called together too often, to decide on similar cases!

Mr. Robert Kermit, owner of a line of New York and Liverpool packets, tells us that although the curtains, linens and bedding on board the packet ships are of the best materials, and kept carefully clean, the table linen and bed-linen are, not unfrequently, required to be sent to the quarantine, and there *washed*, and after being sent for and paid, returned to the ship. The washing perquisite must have been a very pretty item in the sum total of the Health officer's receipts.

One of the most remarkable features in the history of our quarantine regulations, was that permitting *healthy vessels and cargoes*, after two days' quarantine, to come to and discharge at Brooklyn. This was on the ground that said cargo either contained the *fomites* and yellow fever, or from its nature might generate it, and so it was directed to be sent to *another city*, the inhabitants of which they must have supposed to be fever-proof—a city five minutes distant from New York, between which the intercourse is as great as between any two portions of New York itself—the cargoes, moreover, were discharged by stevedores who lived in New York, and returned every evening to the city. New York merchants were continually occupied with these cargoes, which, after being discharged, were permitted to be taken to the city for shipment; and what is still more remarkable, these healthy vessels, after having discharged a healthy cargo, and been cleansed and ventilated, were not permitted to come to New York to reload, until after the 1st day of Oc-

tober, although they may have arrived on the 1st day of June. We have never heard that the good people of Brooklyn have ever suffered from having been made the Lazaretto of New York, or even objected to these vessels and cargoes arriving there; doubtless, to the advantage of store-keepers, wharf-owners, laborers, mechanics, &c. We have seen, for a period of more than 20 years, steerage passengers from Europe arriving during summer, to land at quarantine, where they were obliged to have their clothes washed, while in the mean time they were exposed to all weathers, in all hours, upon the decks of open lighters, and then landed in haste, in a strange city, at the mercy of a gang of sharpers, who lived by imposing upon poor emigrants.

It is impossible to calculate the injury which the commerce of this city has sustained by these absurd and burdensome restrictions. The residents, however, have submitted to them with a meekness worthy of admiration, if not praise. We have seen, for a long series of years, that in consequence of these regulations, *unknown to almost any other city in the United States*, or Europe, that freights during the quarantine months were not easily obtained for this city, as consignees or owners of goods and merchandise sent them to Boston or Philadelphia, or other ports, where the cargoes were not subject to such heavy charges and great delays.*

But it may be said, this was under the old *regime*. So it was, but let us see what are our present regulations.

"§ 5. The Health officer, the Board of Health, or the Mayor and Commissioners of Health, may, if in their opinion it will not be dangerous to the public health, permit the cargo of any vessel under quarantine, or any part thereof, to be shipped for exportation by sea, or transportation up the North or East river; but if the vessel receiving the same, shall approach nearer than three hundred yards to the wharves of the city, such cargo may be seized, and sold by the Commissioners of Health, for the use of the marine hospital."

That is to say, if the Health officer, &c., thinks it would be dangerous to the inhabitants of this city to permit a certain cargo to be landed, they may, if they think the same would not be injurious to the citizens of Rondout or any other place up the North or East Rivers, allow the cargo to be re-shipped to said place; but mind ye, if the vessel receiving the same, comes within three hundred yards of New York city, such cargo shall be forfeited and sold for the use of the marine hospital! It is difficult to know which most to admire, the humanity or the wisdom of such a regulation!

The following provision shows what a salutary relaxation the health laws have undergone in their recent revision.

"But the Health officer, with the permission of the Board of Health of the cities of New York and Brooklyn, may permit any vessel arriving at the port of New York to proceed to some wharf designated by the board of Health of either of the cities of New York or Brooklyn, and discharge its cargo: provided satisfactory proof be given to the Health officer that the port or ports from which said vessel sailed were free from contagious or infectious disease at the time of her sailing therefrom, and that no

* We are acquainted with commercial houses in this city, which have paid several thousand dollars a year, for many years, for the single item of *lighterage*, additional to the ordinary expenses incident to the trade, without quarantine restrictions; then there is the expense of storage, loss of time, &c.

sickness of a contagious or infectious type has existed on board the vessel during her entire voyage."

But notwithstanding the relaxation of quarantine, as regards the city of New York, we believe that it is still unnecessarily onerous and severe. We have seen that no vessel arriving here between the first day of May and the 1st day of October, on board of which there shall have occurred a case of yellow fever, can be permitted to approach within three hundred yards of the city; and vessels "direct from any place, where yellow, *bilious*, *malignant*, or OTHER *pestilential* or *infectious* fever prevailed at the time of their departure, or *which shall have existed at any place*," and all vessels on board of which "*any such fever* shall have occurred," arriving between the 1st of May and 1st of October, must undergo a quarantine for thirty days, and twenty days after their cargo shall have been discharged, and "shall perform such further quarantine as the Health officer shall prescribe."

Not to criticise the phraseology of this act, which would seem to admit of almost any construction which the Health officer might put upon it, we may be permitted to question the necessity of subjecting vessels so circumstanced, to undergo so long a quarantine, or even, in many cases, any quarantine at all. It will be useful in this connection to glance at the quarantine regulations of our Atlantic cities, and see how it is that they succeed in barring out this great scourge of yellow fever.

QUARANTINE IN BOSTON.—We begin with the city of Boston; and we cannot give a better account of its quarantine regulations, than by publishing the following letter, with which we have been favored by its able and efficient Health officer, Dr. J. V. C. Smith. We may add, that it is in reply to certain queries which we addressed to him. Dr. S. has filled his present office for more than 20 years, with universal acceptance and popularity.

"*Boston, July 7th*, 1846.

"DR. LEE,

"Dear Sir,—I am so pressed for time, and withal, nearly worn out with various labors, that unless your letter is answered at once, a fear comes over me that it may be too long neglected.

"With respect to your modified system of quarantine laws, they are abominable, and it is surprising to me that the merchants of New York will submit to such miserable management, which actually tends to the positive injury of commercial enterprise and thrift.

"1*st*.—In the Port of Boston, the process of cleaning a vessel, provided it is necessary, is as follows:—viz. opening the hatches,—hoisting bales, boxes, &c., on deck, so as to give an opportunity for free examination—throwing straw, wet boards, barrels, old damp clothing, beds, &c., overboard, or burning them, as thought best by the physician. The smoke of sulphur is then driven through the interior, thoroughly, and chloride of lime strewn about afterwards. All damaged fruits, articles of cargo, &c., are taken out, which are discoverable. If the entire cargo is ordered out, then white-washing, clearing the bilge water, &c., follows, together with re-painting in some cases. Bales of rags, wool, &c., are opened, if very bad, in the public store at the quarantine, and freely exposed to the best of all disinfecting agents,—a good current of fresh air.

"2*d*.—Vessels may accomplish all that is required, in three hours as well as three days, unless the circumstances are of a very marked

character, requiring time for some anticipated development of disease, supposed to exist on board.

"3*d*.—No vessel in the port of Boston is now required to stop at the quarantine ground at all. The pilot anchors them before the city—where they are inspected. If all the crew are well and have been so during the voyage—and the bill of health speaks favorably of the public health at the port of departure, the vessel warps up to any wharf in the city, and begins at once to discharge, without any reference to the kind of cargo on board. I give a permit to do so,—making the officers inspectors—as you will discover by the enclosed blank—who allow nothing to leave the vessel in a damaged condition. By this plan, no one suffers from unnecessary delay; we stop nuisances from the ocean, and prevent their accumulation in the warehouses. The sick are sent to the different hospitals, according to the nature of their complaints, if they have neither friends nor homes. If they have either, they are permitted at once to leave the vessel and go to them. If any one has an infectious malady, then the physician detains him, and he alone is a subject for quarantine detention. Our system does not keep the crew in confinement, or detain them from their business. The merchant has his goods immediately, without detention or the payment of any fee. Damaged goods are sent to the quarantine to be aired, dried, washed, cleansed, &c., as circumstances require, and so are the sick. Vessels are sent there when there is a prospective danger from them, if permitted to remain in the city, but not without. Hides, skins, hair, wool, rags, carpets, feathers, &c., are landed here freely, every day in the spring, summer, and autumn—for no one is denied—without the least injury to the public health; as before remarked, in the process of discharging, any damaged article cannot be landed. This constitutes the value of the Boston system; it is based on common sense principles.

"4*th*.—I have no recollection of a case of yellow fever having appeared in Boston within the last twenty years,—the period of my official relations. I see many cases that some medical gentlemen might, perhaps, call yellow fever, but there must be vastly stronger evidence than I have ever yet had presented, before I should feel warranted in alarming the city by announcing the existence of that much dreaded scourge.

"If the Boston system of quarantine were introduced into the great port of New York, one single season, I feel confident that all the people—and certainly the mercantile community—would say, Amen. I should like of all things to show your legislators the working of this excellent system; it is always in force, the year round, but never oppressive, onerous, or vexatious, either to owners, consignees, emigrants, shippers, the public authorities, or the public.

"Only yesterday, I furnished blanks, books, and experience, for the Philadelphia Board of Health, at the request of the secretary; hence some modification is probably in contemplation there, it is presumed.

"I am too much occupied to furnish such tabular statements as you request. The foregoing remarks embody all that is essential in the working of our external health law machinery.

"Very respectfully yours,

"J. V. C. SMITH,

"Health Officer of the Port of Boston."

Under such regulations as these, Boston has kept free from yellow fever, since the year 1819, when a few cases occurred from exposure to the foul air, contained it is said in the hold of the ship *Ten Brothers*, which had gone through the full course of quarantine, without any examination of her condition, or even opening her hatches, until her arrival at the wharf. In consequence of the cases of yellow fever thus occurring, our eastern brethren in the profession, commenced the discussion of the contagiousness of yellow fever, in the North American Review, and the public journals, which was continued until the whole community was convinced that the disease was not contagious, and that the system of preventive measures which had so long existed, founded upon the supposition of contagion, was not only burdensome to commerce, but inefficient, deceptive, and dangerous. The result was, the enactment of regulations, entirely adequate to accomplish the object in view, and yet not sufficiently onerous as to be felt by the commercial community.

Quarantine in Philadelphia.—According to the Health Law of Philadelphia, if it shall appear upon examination, that the ship or vessel come from a port or place at which a malignant or contagious disease prevailed, such vessel shall be detained at the Lazaretto, *for such time as the Board of Health may deem necessary, not exceeding* 20 *days*. And the Board shall determine and direct what measures shall be pursued to cleanse the vessel and cargo, purify the clothing and baggage, and restore the health of the diseased persons on board. Certain goods, however, are permitted to be brought to the city in lighters, such as wine, sugar, rum, &c. At the expiration of the quarantine, if none of the crew or passengers have been attacked with a malignant or contagious disorder, the Board may allow the vessel to proceed to the city, but in cases where sickness has prevailed to a limited extent, either during the voyage, or since her arrival at quarantine, the vessel shall be detained such farther time as the Board shall deem necessary; this in general, we are told, has been 20 days from the sickness or death of the last person attacked, in cases of yellow fever; when, however, there has been much sickness on board, the vessel is to be discharged, and the cargo, except such articles as have been specified, shall be stored; the Board, however, may grant permission for the whole of a lading of a vessel thus detained to be brought to the city in lighters; the vessel, in cases where she has been in a filthy and offensive condition, is not permitted to go up to the city, during the quarantine season, but must take her outward cargo on board at the Lazaretto. The vessels which are subject to detention are—1. Those from a foreign port at which sickness may prevail, or those detained under a special order of the Board;—2. Vessels from a port in the United States which have only touched there on the voyage from a foreign port;—3. Vessels from the Mediterranean; in the latter case, should any of the crew or passengers have been attacked with the plague during the voyage, the vessel must be unloaded, and her cargo cleansed, and no part permitted to enter the city for 20 days;—4. All vessels from infected ports in the United States, all vessels south of Cape Fear, are subject to detention at the Lazaretto; and all vegetables, fish, or hides, are not permitted to discharge their cargo, until a permit shall be obtained from the Board of Health, and also that within 48 hours after the discharge of every vessel, the captain, owner, or consignee must report the same, and the Board, if they think proper, shall have said vessel cleansed and purified. Thus it will be perceived that

the law is very general, the particular application of it being committed to the Board, where it should beleft.

QUARANTINE IN BALTIMORE.—In Baltimore the quarantine laws are still more general in their operation, and provide that all vessels arriving from foreign ports or coastwise, between the 1st of May and 1st of November, shall bring *to* below the city, and there remain until visited by the Health officer, who shall either permit them up to the city, or, if there has been sickness on board, or other circumstances which he may consider dangerous to the health of the city, shall order them to the Lazaretto, there to be discharged, cleansed, and purified.

We have been furnished, through the kindness of Prof. H. W. Baxley of Baltimore, with the following letter from the President of the Board of Health of that city, which gives us all the necessary information relating to her quarantine system:

"HEALTH OFFICE, BALTIMORE, July 14th, 1846.

"DEAR SIR:—I herewith transmit to you a copy of the Quarantine laws of the city, as the very best answer I can give to the first branch of Dr. L.'s inquiry. It will be seen by a reference to them, THAT THE WHOLE SUBJECT OF QUARANTINE IS LEFT TO THE DISCRETION OF THE HEALTH OFFICER; and it becomes his duty to carefully examine into the health of the officers, crew, and passengers of such vessels, the condition of the cargo, the state of the vessel as to cleanliness, and generally into all such circumstances as may, in any way, affect or concern the health of the city: and *if he shall believe it to be unsafe* to permit any vessel so examined to unload her cargo, or to come to the wharf, he shall order said vessel to the Lazaretto wharf, or to some other place within the harbor, where it may be safe and convenient to perform the necessary purification, which shall be done in such manner as may be directed by the Health officer, and to his entire satisfaction. Such is the law. The manner in which it is executed by our present worthy Health officer, Dr. Dan. H. Lawrence, is as nearly in accordance with the letter as possible: no vessel is detained unless in his opinion—founded, too, upon close observation—there is something in the condition of those on board or of the cargo, which will jeopardize the health of the city. If the vessel is unclean, or if the cargo is of the nature or in the condition to generate malaria, then it is detained until it can be purified by thorough washing, and a free use of the chloride of lime, and other disinfecting agents; as soon as the work of purification is completed, and the sick, if there be any, removed, the vessel is allowed to come to the wharf. The period of detention varies from one to four days—never longer, unless in the case of small-pox or some of its modifications.

"There is no specific regulation respecting 'raw hides, skins, wool or rags.'

"There is no record or other information in this department, which enables me to trace any case of yellow fever to any vessel arriving at this port. I believe it is the general opinion of physicians in this city, that yellow fever is of local origin, and is not contagious.

"I have thus briefly answered the several queries propounded by Dr. Lee, without any attempt at argument on any point of inquiry. In the hope that it may prove acceptable, I have the honor to remain,

"Very truly your friend and servant,

"WM. S. LEONARD, M. D.

"President of the Board of Health

"PROF. H. WILLIS BAXLEY."

QUARANTINE IN CHARLESTON.—From the Quarantine laws of this city for the present year, we quote the following extracts, which show that although not as stringent as our regulations, still the Health officer is not vested with entire discretionary power, as in Baltimore, Philadelphia, and Boston :—

"It shall be the duty of the Port Physician to examine every vessel brought to Quarantine, as soon thereafter as practicable.

"Every vessel arriving from the Gulf of Mexico, or the West Indies, from any part of the Mediterranean Sea, or from any place where infectious or malignant maladies usually prevail, or where any infectious or malignant diseases, the small-pox inclusive, may prevail, at the time of the departure of such vessels therefrom, but having at the time of the arrival of such vessels no infectious or malignant malady on board, shall be subjected to the quarantine of five days, but which may be extended at the discretion of the Port Physician.

"Vessels coming from any port or place whatever, with malignant or infectious maladies on board, shall be made to perform a quarantine of twenty days or more, if in the judgment of the Port Physician a longer time is necessary."

The following letters relating to the health regulations of Charleston, with which we have been kindly favored by Dr. Frost, will be found interesting :—

"CHARLESTON, July 21, 1846.

"DR. CHARLES A. LEE,

Dear Sir :—I have received your communication, dated July 6th, and forward you the opinions of our Port Physician on the points inquired of in your letter. He has also kindly favored me with a report read before the Board of Health in 1839, which will interest you, and which I also here send. I send you a No. of a daily paper, the 'Southern Patriot,' containing the proclamation of the Mayor on the subject of Quarantine, with the regulations to be enforced during the hot season.

"The only inquiry in your letter to which I would make some observations is the fourth :—"Has yellow fever ever been traced in your city to vessels thus arriving, and if so, how recently?' That yellow fever was engendered in our soil and climate, seems to have been the opinion of a very large majority of the physicians of our city. These opinions have been shaken by the occurrences of the summer of 1839. By referring to the report sent you, page 8, you will find the case of the ship Burmah related, and it was from the occurrences growing out of that case that a change of opinion has taken place. By reference to it you will find, that the yellow fever was introduced into our city as early as the 7th of June, three patients being admitted into the Marine Hospital on that day; that between the 7th and 17th and 19th, cases occurred in neighboring vessels, coming from healthy ports, and having healthy crews, and which were also sent to the Hospital. These facts are important upon the subject of importation, because the disease appeared at so early a period as is unprecedented in our medical records. From the wharf and shipping, the disease extended to the occupants of stores and counting-houses in the neighborhood, and several deaths occurred from the disease among them. The disease also terminated at an unusually early period, this season.

"From these facts, without going more into detail, we think that the disease is communicable; but, to be communicated, there must exist a predisposition in the climate of the place to take on this morbid action,

if I may so say. Now, the atmosphere of our city and wharves during the summer, cannot be considered free from peccant matter, though the quantity has diminished much of late years, from the precautions taken by the Board of Health, and other causes: yet at certain seasons it seems augmented in a considerable degree, either from atmospheric or telluric operations. Any increase to this state, either by the introduction of cases of fever, or a foul ship into our community, seems sufficient to light up disease; as a little leaven leaveneth the whole mass.

"Such are the views I would offer in a very brief manner upon the subject of the fourth inquiry. I need not extend my remarks, as the documents I send you, and the letter of our Port Physician, will furnish you all the information in my power. I shall be pleased to see your comments upon the subject. I remain, dear sir,

"Yours truly,
"HENRY R. FROST."

"*Charleston, July* 17, 1846.

"DR. FROST:

"Dear Doctor—I send you with pleasure, in accordance with your request, answers to Dr. Lee's questions, and a Report made to the Board of Health in 1839, which, I regret, has many typographical errors, and does not enter into any elaborate description in relation to contagion.

"Yours, very truly,
"THOS. Y. SIMONS,
"Port Physician, and Chairman of Board of Health."

"*The Mode of Purifying Vessels, &c., &c.*

"All offensive materials are taken away, if there be any such, as damaged goods; the bedding and clothes are well washed and ventilated, and in some instances destroyed; the hatches taken up and freely ventilated: the cabin and forecastle well scoured: chloride of lime used: the latter white-washed. This is only done when sickness exists on board.

"*How long vessels coming from intertropical, or unhealthy ports, are to be detained at Quarantine, &c., &c.*

"*A.* If no sickness is existing, and the vessel is cleanly, after examination, it is allowed to come up, the captain being bound to let the Port Physician know if any sickness subsequently takes place. This, however, the physicians of the city cautiously do, when they are removed to the Lazaretto.

"*Are Hides, Skins, Rags, &c., &c., landed at your wharves in Summer Months?*

"*A.* I do not remember of any vessels arriving with such a cargo. The cargoes are usually coffee, sugar, molasses, and fruit. During the summer all damaged articles would be prevented from admission into the city, but none other.

"*Has Yellow Fever ever been traced to vessels arriving in your city, and if so, how recently?*

"*A.* In reply I refer you to my report of 1839, pages 8, 9, 10, 11. It is but justice to say, Dr. Stockel wrote a book to prove it was introduced here, which seemed to materially alter the views of Professor Dickson, who was previously the advocate of non-contagion; and here I may answer,

"In saying, that the physicians heretofore, and now, believe Yellow Fever to arise from local causes, see Report, page 15, on arrivals.

"My object as Health officer has been to prevent, if possible, any case of sickness coming into the city, while at the same time, I have regarded a rigid and active system of internal medical police, not only equally, but infinitely more important. Since a strict and vigilant attention has been paid to this department, the health of the city has much improved, and I think I can safely say there is no healthier city on the sea-board in the United States. In 1838–9, the Fever occurred after a very extensive fire; and it is well known in every city, after great fires, fevers peculiar to the climates prevail epidemically. Respectfully,

"T. Y. SIMONS."

With regard to the ship Burmah to which Dr. Frost refers, we quote the following remarks from Dr. Simons's very able Report to the Board of Health, for 1839—

"The fever having occurred so early in the season, and so soon after its occurrence on board the Burmah, created suspicion of contagion in the minds of some, but I could not, upon the minutest investigation, come to that conclusion; and a Committee* appointed by the Medical Society, after making a minute and thorough investigation, came to the conclusion that the fever was not introduced by the Burmah, or by contagion, but was produced by the peculiar condition of our atmosphere; in other words, was endemic, and arose from causes among us.

"The following extracts I have taken, with the approbation of the Chairman, from the report:

"'By an examination instituted through reference to the captains and mates of the various vessels, whose information was given from the log books, your Committee have ascertained that they had, at the time of their sailing from the different ports, viz. Liverpool, Boston, and New York, for this port, perfectly healthy crews, with sound cargoes, incapable from their character of generating foul air. That there was no malignant disease prevailing at the time of their departure; that their crews had not, while in this port, any communication, either direct or indirect, with the Burmah or her crew; and finally, that *that ship*, in all these instances, lay in the stream, from a quarter to half a mile from them, except for a short period, of which mention will hereafter be made.'—*Page* 5.

"Again: 'The presumption is thus fairly induced, that the cleansing and ventilation must have disinfected her (the Burmah) sufficiently of her foul atmosphere for purposes of safety, *else why none other of her crew remaining on board* THENCE TO THE TIME OF HER DEPARTURE FROM OUR PORT, CONTRACT THE DISEASE?'—*Page* 7.

"Again: 'Thus far your Committee have satisfied themselves, that the transmission of the fever through the agency of the Burmah is neither tenable as to fact, nor in accordance with the opinions of a great majority of the medical profession in this country,' &c., &c.—*Page* 8.

"Again: 'Your Committee therefore are of opinion, that the Yellow Fever which has prevailed, and still continues this season, has its origin, not from contagion derivable from those cases imported in the ship Burmah, on the 6th June last, but from local and general causes.'—*Page* 10.

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* The Committee consisted of Dr. A Lopez, Chairman, Drs. James Moultrie, E. Geddings, J. M. Campbell, Henry Wintheop, and the President, J. E. Holbrook.

"It must be here remarked, that the month of June was uncommonly hot; and the whole of this summer was remarkable for the great drought, as well as high temperature. All our southern country experienced the same weather, and the principal cities south of Charleston have been invaded with Yellow Fever. At the latter portion of this year, a fever of the duration of twenty-four to forty-eight hours, affecting the head, the joints, the spine, very severely, occurred among natives and strangers; and as soon as it began to prevail, the Stranger's Fever diminished; this fever resembled the Dengue, and from the intense pain in the joints, was commonly called the Break Bone Fever. It in no instance proved fatal.

"I have been thus particular in the history of the commencement of the disease this year, because, from the coincidence of circumstances, it might be supposed that the fever prevailed either by infection or contagion: and the following reasons I offer against such a position, independently of the facts cited:

"1. It is hardly possible to suppose that the disease, after the statement made, could have been introduced by the Burmah, for it would produce an intensity of contagious or infectious principle, surpassing small-pox. For many years I have removed cases of small-pox from the city to the Lazaretto, whenever they occur, and there are not less than four or five occurring every winter, and yet this virulent and acknowledged contagious disease has never spread.

"2. It may be said, that infection arising from the condition of the vessels, might be the cause. In reply, I say, if such was the case, why does it not occur every year? for the same causes exist every year, viz. vessels arriving from the West Indies, and especially from Havana, in Cuba, where Yellow Fever always every summer prevails among the shipping.

"3. If the infectious principle was so powerful, why should it be confined so long to the shipping, when a free intercourse was had with them by laborers, and other inhabitants of the city, liable to the disease."

With respect to the question of the contagiousness of Yellow Fever, we cannot refrain from adding another extract from the same report—

"An interesting and important question now arises—What are the causes of the fever among us? At the first occurrence of Stranger's Fever (Yellow Fever) in different places, it was ascribed to contagion. 'The Yellow Fever,' says Good, 'as far as we have any record of its origin, was at Barbadoes, whence it spread to different West India Islands, and at length made its appearance at Boston, in North America, in 1693, to which place it was carried from Martinique, by the fleet under Admiral Wheeler.' Wherever it occurred, without looking to local causes, or the condition of the air, it was ascribed to this cause. In 1793, 94, 97, it visited Philadelphia. It was ascribed by Dr. Rush, and other physicians, to contagion; and that eminent physician strongly advocated this, led on, as many before him, by the misconceptions of others who did not thoroughly and carefully review the subject, assuming a postulate, which had not been proved, and making sweeping conclusions from a few insulated facts, or accidental coincidences. But he changed his views, and I here present the same to you. In a letter addressed to Dr. Miller, of NewYork, he says, 'You will perceive from the facts and reasoning contained in this letter that I have relinquished the opinion published in my account of the Yellow Fever, in the years 1793, 1794,

and 1797, respecting its contagious nature. I was misled by LINING, and several West India writers. I am aware of the influence which such changes in medical opinions, as I have acknowledged, have upon a physician's reputation; but small indeed should I consider the total sacrifice of mine, could it avert the evils which are connected with a belief in the importation of pestilential diseases.' In the fourth volume of his Medical Inquiries and Observations, he says: 'He begs the forgiveness of the friends of science and humanity, if the publication of that opinion' (alluding to contagion) 'has had any influence in increasing the misery and mortality attendant upon that disease. Indeed, such is the pain he feels, in recollecting that he ever entertained or propagated it, that it will long, and perhaps always, deprive him of the pleasure he might otherwise have derived, from a review of the attempts to fulfil the public duties of his situation.' In fact, it has been the custom, and I may add, the fashion, of physicians, to ascribe every epidemic, at first, to contagion, but after a careful investigation, these opinions have been altered, as in the case of Stranger's or Yellow Fever, Cholera, &c. In Charleston, generally, the physicians, as long as I have been in practice, have regarded the Stranger's Fever as endemic to Charleston; in other words, liable to occur from a peculiar state of the atmosphere among us, as Typhus Fever, &c., are peculiar to countries in northern latitudes, and that it is not introduced by contagion or infection; and this opinion has been long entertained. Dr. DAVID RAMSAY, in a letter to Dr. MILLER, of New York, 1800, remarks: 'the disputes about the origin of Yellow Fever, which have agitated the Northern States, have never existed in Charleston. There is but one opinion among the physicians and inhabitants, and that is, that the disease was neither imported nor contagious. This was the unanimous sentiment of the Medical Society, who, in pursuance of it, gave their opinion to the government last summer, that the rigid enforcement of the quarantine laws was by no means necessary, on account of Yellow Fever.' I will barely mention, in conclusion, that M. CHERVIN, who visited every portion of the United States, West Indies, and the continent of Europe, where Yellow Fever has prevailed, came to the conclusion from inquiries, experiments, and investigations, that it was not contagious, nor could it by commercial intercourse be spread in a city.

"In another place it has been remarked, that the Committee of the Medical Society, in their report this year, gave it as their decided opinion that the Yellow Fever arises neither from infection nor contagion.

"Abundance of other testimony, equally strong, could, if necessary, be adduced.*

"Although such has been the medical opinion here, and generally elsewhere, quarantine regulations have always been deemed necessary, and the great object has been to carry it on efficiently without injuring commerce. For some time it was thought best to require of the pilots, at all seasons, to bring only vessels having sickness on board, to quarantine, where they were inspected, cleansed, and ventilated, and the sick sent to the Lazaretto. But since the violation of instructions by one of the pilots, in bringing in the Burmah, with fever on board, as already related, and some excitement having arisen, to avoid similar events, it

* I refer to BANCROFT on Fever, who I think with M. CHERVIN, has settled this question.

was determined that all vessels from ports where fever prevails, should be brought to quarantine during summer, whether having any sickness or not, and be thoroughly ventilated, and as far as practicable, cleansed, which was faithfully executed this summer. The plan now is, to issue a circular in the summer and winter, to the pilots, directly after the Mayor has issued his proclamation. With the best exertions, some cases will elude our efforts, and sometimes cases have occurred that were well on arrival, who have taken sick afterwards."

QUARANTINE IN SAVANNAH.—The following letter from our correspondent, Dr. Le Conte, gives a very full and interesting account of the Quarantine regulations of the city of Savannah, Georgia.

"SAVANNAH, July 6th, 1846.

"PROF. C. A. LEE,

DEAR SIR:—Your letter of the 16th instant reached me several days ago, since which time I have been making such researches as might enable me to answer your interrogatories in relation to our quarantine regulations. Before doing so, perhaps it is best to premise, that the Act of the Legislature of December 10th, 1803, gives the Corporation of the city of Savannah, full jurisdiction in all matters relating to cases of quarantine. The Act of Dec. 19th, 1823, requires the Mayor and Aldermen to elect a Health officer annually, and empowers them to regulate his compensation. The city ordinance of May 22d, 1828, fixes the salary of the Health officer at $350, and requires him to attend all cases which may be carried to the Lazaretto. Except where small-pox is prevailing in the northern seaports, the Health officer has very little to do. By an Act of the Legislature, the Mayor and Aldermen are empowered to remove from the city, any person who may be infected with small-pox, to such place without the limits thereof, as they may appoint for that purpose. The operation of this law has led to a lamentable neglect of vaccination; the citizens relying upon the vigilance of the civil authorities for protection against this disease. Having premised these remarks, I proceed to answer your interrogatories in the order in which they occur in your letter.

"1st. Vessels are purified by means of fumigations of sulphur and chlorine, and washing with lime. The time usually required is about ten days, sometimes as long as three weeks.

"2d. Vessels coming from intertropical or unhealthy ports, are *never* detained by the Health officer, or even visited by him, unless he has reason to believe that cases of small-pox are on board, or unless the cargo is reported to be in such a condition as to produce disease, in which case he is required to make such recommendations to the civil authorities as the case may require. In fact, although the law vests the corporation with the power of quarantining all vessels arriving from a port supposed to be 'infected with any contagious or malignant disorder,' yet small-pox is the *only* disease to which it has been applied. Vessels arriving from the West Indies in July and August, come on the same footing as those from Boston and New York.

"3d. Hides, skins, wool, rags, etc., are allowed to be landed at our wharves at *all seasons*, provided they are not in an offensive condition.

"4th. The yellow fever has *never* been traced to vessels or cargoes arriving from ports in which the disease prevailed. This disease was epidemic

in this city during the summers and autumns of 1817, 1820, and 1827. Prior to the first of these dates, I have not noticed any authentic account of this disease prevailing epidemically; although it must have done so repeatedly. Perhaps some of the old volumes of the New York Med. Repository may contain some information on this subject. Sporadic cases have frequently made their appearance, particularly in 1839, when the disease was very fatal at Augusta, Georgia. The epidemic of 1820 was terribly fatal; and it was computed by Dr. Wm. R. Waring, that about one in five of the entire white population remaining in the city, were carried off by the disease. In an able and elaborate memoir on the epidemic of this year, Dr. Waring discusses the question of its importation, and clearly demonstrates that the disease was of *indigenous origin*. The remarkable exemption of this city from the ravages of yellow fever since 1827, is unquestionably owing to a better system of police, to bringing low lands in the vicinity under dry culture, and more *particularly*, to a more philosophical application of hygienic and sanatory regulations. This is evident from the fact, that formerly the whole city was infested with turkey buzzards (cathartes aura and cathartes atrata, of Audubon); the whole of the scavengers' department seeming to have been awarded to these *feathered bipeds!!* Some of our old houses still retain the memorials of this state of things, in the shape of chimneys armed with large spikes, to prevent these filthy birds from lighting on them! Not one of these birds is now to be seen, *even about the market and suburbs!!* This fact clearly demonstrates that there has been a vast improvement, so far as cleanliness is concerned; for these birds are as abundant as ever along the seacoast of Georgia. They have obviously been starved out of the city.

"5th. I believe it is the *unanimous* opinion of our physicians, that yellow fever is NOT CONTAGIOUS. The unanimity of opinion among our medical men with regard to this subject, and the personal observations of the older citizens, are probably the causes which have led to the restriction of our quarantine regulations to cases of variola and varioloid.

"You will perceive from the above, that I have endeavored to reply to the interrogatories contained in your letter. Unfortunately we have no *printed* quarantine regulations which I might transmit to you; but, by consulting the records, I have endeavored to glean all of the information which you required.

"Our health office is by no means a lucrative birth; the salary is fixed at $350, with such perquisites for *extraordinary* duties as the city council may think proper to give him by special resolution. Attention to his duties does not usually make any very great inroads on his practice. With you, it is very different. If I mistake not, in New York, the Health officer is an executive appointment. Your regulations are certainly very onerous, and I am glad to learn that you have taken up the subject.

"Very respectfully yours,
"JOHN LE CONTE."

QUARANTINE IN NEW ORLEANS.—For a history of quarantine in New Orleans, we take great pleasure in refering our readers to the very interesting article of our collaborator, Dr. Dowler, in the present number of the Journal. It is sufficient to add here, that New Orleans has no quarantine whatever.

We have thus passed in review, the existing quarantine regulations of all the important Atlantic cities, and we have seen, if we mistake not, that those of New York are more complicated, restrictive, and onerous to commerce, than those of any other city. Notwithstanding the vast improvement in the construction of vessels, tending to the comfort and health of crew and passengers; the improvement in the characters and habits of sailors, by which they are far less liable to disease than formerly—notwithstanding the relaxation of quarantine in all our cities, and throughout the civilized world; and especially notwithstanding the local advantages of this city in relation to facilities for cleanliness and ventilation, its abundant supply of pure water, and its character for salubrity; notwithstanding all this, we still see our city shackled by numerous restrictions with respect to its trade and commerce, and its prosperity retarded by adherence to regulations founded on exploded theories and antiquated hypotheses. We think we do not err, when we say that ninety-nine in every hundred of the physicians of New York regard these regulations in the same light that we do; and we know there is but one opinion among our commercial men in relation to them. They consider them complex, inexpedient, and unnecessarily stringent upon the commerce and trade of the city,—and there is no class of our community who have a greater interest in the preservation of the public health than our merchants. While they respectfully ask that all unnecessary shackles should be removed from the prosperity of the commercial Emporium, they also think that all proper precautions should be adopted, by which it may be preserved from disease, whether of domestic or foreign origin. They know full well, that it is for their interest to throw around the public health all proper guards; for trade not only languishes, but absolutely ceases, whenever epidemics prevail. But when they see trade which ought to flow into our own city, seeking other ports, where no such restrictions prevail; when they see other cities, equally, if not more free from contagious and infectious diseases, which may be said scarcely to have any quarantine at all, they well may ask why burden us with regulations which are not demanded or found necessary, in any other city on the continent—why introduce measures to disturb our commerce, and embarrass us in the pursuit of our just and lawful avocations?

There can be no doubt, we think, that owing to improvements in the internal police of our cities—to a better acquaintance with hygienic laws among the people—to changes of climate and the progress of civilisation, the yellow fever region of this hemisphere is no longer to be found in our latitude, but is removed at least twelve degrees to the south of its former northern limit, and is at least no longer to be dreaded in this city. Experience, moreover, has proved, that where the specific local causes of yellow fever exist, there yellow fever will prevail in spite of all quarantine regulations, as in Philadelphia, in 1797, New York in 1805, and 1822, and New Orleans, previous to 1822. It was the universal conviction of the absolute futility of quarantine laws in New Orleans, that led to their entire abrogation, and that led the Medical Society of that city to report that "they were unnecessary and inexpedient for the protection of the city." Dr. Townsend, our ablest advocate for the contagiousness of yellow fever, admits that the introduction of the Croton water into our city although it would not prevent the introduction of the disease, "would present an opposing obstacle to the spread of the fever."—(p. 137) Most of our physicians go still further and say, that if the Croton is used

fully as it ought to be, in cleaning our streets, lanes and alleys, and purifying our sewers, it would be impossible for yellow fever either to originate or spread in our city. In this opinion we fully coincide.

By these remarks we do not mean to be understood as opposed to all quarantine whatever. We believe that full discretionary power should be given to the Health officer, and the Board of Health, to act in any case according as the particular circumstances seem to require. In no case do we suppose a quarantine of twenty or thirty days necessary, or that cargoes, unless in a damaged or putrid state, should be landed elsewhere than at our wharves. If yellow or malignant fever prevails, no matter where the vessel may come from, let the patients be sent to the hospital, and the ship cleansed and purified, after the manner recommended above by the Health officer of Boston. In all cases let healthy emigrants be landed at our docks, and not crowded together at quarantine to engender disease, as has often happened. In cases where it is doubtful whether a ship or cargo should be allowed to come to the city, let the matter be referred to the Board of Health (which should be composed of medical men, the Mayor and Board of Aldermen), who shall take testimony in the case, and decide accordingly. An appeal to the Board of Health, should in all cases be allowed, if required. The Health officer should be compensated by a fixed salary, and not, as at present, by fees; the salary should be liberal.

By this arrangement, it will no longer be said that "much of the cumbrous management of our present quarantine system, is more necessary to sustain official fees than to guard and preserve the public health."—(Report, p. 255.) What our city needs, is a more efficient internal police, the adoption and carrying out, of a more extended and thorough system of internal sanatory regulations; as cleaning the streets, the removal of nuisances, the adoption of sub-sewerage, the prohibiting the erection of dwellings in the shape of courts and alleys, and on the rear of dwelling lots, the erection of free baths, and generally the employment of all those means, which experience has shown to be necessary for the comfort and physical well-being of individuals and communities.

ART. XIII.—*A Treatise on the Motive Powers which produce the Circulation of the Blood.* By EMMA WILLARD. New York: Wiley & Putnam. 12mo., pp. 170. 1846.

THERE is scarcely any subject in theoretical or practical medicine, which has stronger claims upon the consideration of the medical man, than the circulation of the blood. A knowledge of the laws of the circulation is requisite in the judicious treatment of disease, and the more comprehensive it is, the more successful will be the practice employed. Without it, how is it possible to economize with safety and advantage, the expenditure of the vital energies, in the endeavor to correct striking deviations from health; or, in various constitutional disorders, to suggest and enforce the application of simple, but efficient remedial measures? No one can doubt that the circulation has an intimate relation to every vital operation; that there can be no material deviation from health, but

it is attended by corresponding modifications in the distribution and qualities of the vital fluid; that an acquaintance with these modifications will suggest, in many diseases, prompt and appropriate remedial measures; and in short, that the perfection of medicine, as a science and a practical art, will depend, in no small degree, upon more accurate and extended views respecting the laws of the circulation, embracing not only the moving powers of the blood, but the various causes which modify its qualities.

The problem of the circulation has attracted the particular attention of philosophers and physiologists from the time of Harvey, when the fact of the circulation was first pointed out, until the present time. From that period to the present, we have had theories and hypotheses without number, nearly all of them founded on mathematical reasoning and the principles of pure physics, disregardful of the fact, that they relate to phenomena which have all the complex and elusive properties of life; blended with, and united by, sympathies difficult to trace, and impossible accurately to estimate.

Of this school was Borelli, who estimated the contractive power of the heart at 180,000 pounds; of Keill, who proved by equally satisfactory reasoning, that it was but five ounces and a half; and of Hales, who computed the same force at 50lbs. It is indeed remarkable, that these physiologists, who could see nothing in the heart but a simple hydraulic machine—a forcing pump with its tubes and valves—should have overlooked the fact, that contractility is a variable power, depending upon a number of causes connected with life, and which no one can appreciate, as they are not only hidden from our view, but constantly changing. We do not mean by this, to be understood as expressing the opinion, that all the vital powers may be reduced to the single effect of muscular contractility; although we hold this to be a self-evident source of power in which motion is generated, which did not previously exist, and as respects the circulation, that the contractile power of the cardiac walls is the main-spring from which this force proceeds. Nevertheless, we are willing to admit that physical laws have much to do in the phenomena of animal bodies; and that these phenomena cannot be satisfactorily explained, without taking *them* into consideration. The same laws which promote the circulation of sap in vegetables, doubtless operate in aiding the circulation of the fluids in animals; and the bare fact that some of the lowest orders of animals, as insects, have a circulation, but no heart, shows that a central organ is not indispensable to this function; all that we can say is, that the heart is a very important instrument in carrying on the circulation, but not essential to it, since a true circulation may exist without it; that its presence, however, always implies a higher and more perfect, because a more extended and complicated, and therefore, a more richly endowed organization. It doubtless simplifies the matter very much, to regard the circulation of the blood as a clever illustration of mechanical principles working on dead matter, and we would rest in this method also, if man were not a living being, endowed with vital functions; or if any one will show us the blood still circulating through the arteries and veins of the body, after life has departed.

It was the doctrine of Harvey, that the heart was the only organ of the circulation; but this opinion has long since been abandoned. We have stated that there is no central organ in insects; in fishes, the

bronchiæ or gills intervene between the aorta and the heart, so that the blood, after it leaves the bronchiæ, must move by some agency independent of the heart: in the human species, cases have been met with, in which a circulation must have obtained for a considerable period without any central organ. An acardial fœtus, fifteen inches high, has been described by Sir B. Brodie.

We suppose it will be generally conceded, that the heart has something to do in the circulation of the blood. It is a muscular organ of great solidity and power, its fibres so arranged as to give to it elastic, as well as contractile properties; and if its valves are diseased, so as to obstruct the passage of the blood from the heart, it becomes hypertrophied or thickened, in consequence of the additional labor to which it is subjected. It often, indeed, becomes enormously enlarged, like other muscles subjected to an inordinate amount of exercise; and the left ventricle, which has more labor to perform than the right, is correspondingly thicker and more muscular.

According to Sir Charles Bell, the left ventricle projects its blood into the aorta with a velocity equal to twenty-one feet in a minute. By inserting a glass tube into a large artery, as the carotid of a horse, Hales found that the blood rose eight feet and three inches above the level of the left ventricle, during every contraction of the heart, and hence he inferred that the blood would rise seven and one-half feet high in a similar tube fixed into the carotid artery of a man. "The internal area of the left ventricle of the heart," he observes, "is equal to fifteen square inches; these multiplied into seven and one-half feet, give thirteen hundred and fifty cubic inches of blood, which press upon that ventricle when first it begins to contract—a weight equal to 51-5 pounds." Carpenter, in his recent work on Physiology, adopts the following conclusions, from a wide survey of the numerous experiments that have been performed on this subject. He remarks that "the force which must be exerted by the heart to sustain such a column (seven and one-half feet high), may be shown, upon physical principles, to be as much greater than this (four and one-third pounds), as the area of a plane passing through the base and apex of the left ventricle, is greater than that of the transverse section of the aorta; and as the proportion of these areas is about three to one, the real force of the heart may be stated at about thirteen pounds (p. 335)." The same writer estimates, that only twenty seconds are required for the transmission of a saline substance, from the veins of the upper part of the body to those of the lower, even in as large an animal as the horse; in other words, to go the complete round of the circulation. If we estimate the quantity of blood taken into the heart during each dilatation to be two and one-half ounces, that the heart contracts seventy-five times in a minute, and that thirty pounds represent the quantity of blood circulating in the body of a moderately sized man, the whole mass of blood will pass through the heart twenty-three times every hour, and an entire circulation will be performed every three minutes. This fact, then, must be borne in mind in all reasonings and calculations relative to the forces that circulate the blood. Though we thus demonstrate that the heart does, and must exert great power in carrying on the circulation, we cannot tell how far its action extends along the arteries, or at what rate the blood travels in the different stages of its journey. In several well attested cases, where nearly all the arteries of the body have been found ossified, the

circulation was nevertheless carried on with great regularity. Again, the influence of the heart in circulating the blood, is proved by the well-known fact, that whenever the circulation is languid, the action of the heart is languid also, and *vice versâ*.

Our next proposition is, that the *arteries*, including the capillaries, have much to do in circulating the blood. We have alluded to insects and fætuses without a heart, where the circulation is carried on by vessels alone; also to fishes, in which two thirds of the blood is circulated exclusively by means of vessels; we set out, then, with the fact proved and admitted, that vessels alone may circulate the vital fluid, without the agency of any heart; though we have seen that, under ordinary circumstances, the heart is the most important agent in carrying on this function. What proof, then, have we of the agency of arteries in aiding the circulation of the blood? If we examine the capillary branch of a small artery under a microscope, we find it to contract and dilate as regularly as the heart. If we tie the aorta as it issues from the heart, the blood which it contains beyond the ligature will be urged onward as usual into the veins. If we remove the heart wholly from the body, the circulation will go on for some time afterward, in the capillary vessels. Arteries, like the heart, are endowed with contractility and elasticity. And it is well they are so; for there are so many causes which tend to obstruct the passage of the blood, that were not the arterial tubes capable of taking up the propulsive effort commenced by the heart, the blood would never reach their extremities. We need but name the arch of the aorta, upon which the blood strikes upon the contraction of the left ventricle; the friction between the blood and the sides of the vessels; their many curves and angles; and the increasing areas of these tubes as they ramify, though much less than formerly supposed,—all these obstructions are of such a nature, as to seem to require that the *vessels themselves* should be able to aid in propelling their contents. It is now established, we believe, that the blood moves with nearly equal rapidity in the small capillaries, as in the larger arteries. It is, moreover, worth considering, how the muscularity and contractility of the arteries are balanced. Near the heart, contractility predominates; as we recede it diminishes, and muscularity takes its place. Sir Charles Bell has remarked that "the stronger the contractility, the weaker the elasticity; and the weaker the elasticity, the stronger the contractility. So that while the strength of the heart's impulse upon the blood diminishes, as the current leaves the centre, the strength of the contractile power in the smaller arteries, through which it has to pass, increases. And as the elasticity of the large arteries, which to them is essential, would be injurious to the small ones, this principle gradually decreases with the decreasing artery, until the capillary vessel becomes almost exclusively a muscular tube." This muscularity is not without its use. Where there are muscular fibres, they are for the purpose of contraction—where there is contraction there is motion. If the heart sets the blood in motion, the capillaries take up and support that motion, and thus aid in carrying forward the vital fluid, for the nourishment of the tissues, and to supply the waste of the system.

Respiration aids in the circulation of the blood. This cannot be denied, without denying facts obvious to the most superficial observer.

The chest, we suppose, must be admitted to be a closed cavity, in which a partial vacuum, or tendency to it, at least, is produced by the

act of inspiration,—while its contents are compressed by the act of expiration. During the former, owing to atmospheric pressure upon the external parts of the body, the blood must necessarily be driven towards the heart; while during the latter, it must be retarded. Hence we have what has been called the *respiratory pulse*, observable in the veins of the neck in thin persons, or those laboring under pulmonary disease. "The great venous trunks of the head, neck, chest, abdomen, fore-extremities," says Haller, "swell *during expiration*, from the blood either being obstructed or retrograding, and at inspiration are emptied of it from its flowing freely through the heart." "When the chest dilates," says Magendie, "it inspires the blood of the cavæ, and successively that of the veins, ending in them, much in the same way as it does the air into the trachea. When the chest contracts, the blood is driven back into the cavæ by the pressure experienced by all the organs of the chest." The influence of respiration on the circulation is also well illustrated by an experiment of Magendie, in which a hollow tube was introduced into the jugular vein, and the lower end immersed in water. During inspiration the water rose in the tube, and during expiration, it was expelled, showing the suction powers of the former, and the expellant force of the latter. The expiratory movement, also, while it causes the blood to circulate in the veins, aids also in propelling the blood in the arteries, and to these two causes, are owing the rising and sinking of the brain synchronously with expiration and inspiration, as observed in the fontanelles of infants, and where a portion of the cranium has been removed. Every person knows, moreover, the influence of increased respiratory movement, in increasing the rapidity of the circulation. By a slight voluntary exertion in this way, we increase our own pulse, while writing, from seventy to one hundred and twenty. If we make a violent expiration, and then hold the breath as long as possible, the rapidity of the pulse is diminished several beats in a minute; here the heart is nearly deprived of blood, it having been forced out during expiration, and not drawn in by inspiration. Doubtless, part of the effect is owing to obstruction in the lungs, from a cessation of chemical changes, and inspiration, by giving free passage to the blood through these organs, accelerates its course through the veins, independently of a vacuum, at least, in some degree. The effect of chemical changes in the blood, as well as the mechanical condition of the lungs, are to be considered in explaining these phenomena; for we see the circulation carried on in the fœtus, and in animals that do not respire by lungs at all. While, therefore, we admit that one great cause of the cessation of the heart's action is the want of chemical changes in the vital fluid, we at the same time cannot but believe, that the mechanical influence of the respiratory movements is powerfully influential in carrying on the circulation. Whenever they are feeble, the action of the heart is also feeble, and the circulation languid. Are not the palpitation and difficulty of breathing experienced by travellers on very high mountains, partly owing to the circumstance, that so much of the atmospheric pressure is removed from the external surface, that the circulation stagnates; the blood not being promptly returned to the heart? At least so it seems to us. Drs. Carson, Barry, Holland and others, have fully demonstrated the influence of inspiration, of the cavity in the chest exterior to the lungs, and of the expansive power of the heart, on the circulation of the blood, and we can only refer our readers to their writings for a full discussion of this

subject. We doubt if any one can carefully weigh the arguments they adduce, without the full conviction that respiration and the resilience of the lungs, or atmospheric pressure, are powerful auxiliary forces in carrying on the circulation.

In connection with the propulsive action of the heart in circulating the blood, as already described, we ought to notice the *suction power* of this organ, depending on its elasticity, by which a tendency to a vacuum is produced by the expansion of its auricles and ventricles. "The heart," says Sir Charles Bell, "is a hollow muscle, possessing both elastic and contractile powers. Its contractility depends on the muscular fibres of which it is principally composed; its elasticity, on the cellular tissue which is mixed up with the muscular. Its elasticity is inferior to its contractility; but its elasticity is indispensable. When the heart contracts, its muscular fibres have not only to expel the blood, but to overcome the elasticity which would prevent contraction; and when it dilates, the muscular fibres relax, and allow its elasticity to operate. The one is a vital, the other a mechanical agent. Power is created by the action of contractility, but elasticity merely restores a part to its primitive condition, when the constraining force has ceased to operate. When the right ventricle has forced its contents into the pulmonary artery, the auricle contracts and immediately fills it. But the auricle has no sooner contracted, than its elasticity again causes it to dilate, and thus a vacuum is formed at the very extremity of the venous system. Meantime, the blood, which, in returning through the veins, being pressed upon in every direction, from behind, moves on towards the heart, comes at length within the influence of this vacuum; instantly the suction power, generated in the auricle, begins to operate, and completes the circulation by drawing the rising current into the cavity of the auricle." Here, then, is another co-operating cause in circulating the blood. The veins of course are nearly passive. The heart, aided by the contractile power of the arteries, throws the blood into the capillaries; the capillaries, assisted by atmospheric pressure, the vacuum caused by expiration, and the heart's elasticity, draw it on towards the heart, and thus is the current sustained—and such are the principal agents, by which the circulation in man is conducted. There are others, it is true; such as muscular contraction, exercise, pressure of the viscera, movements of the diaphragm, capillary attraction, affinity of the tissues for oxygen, and consequently for arterial blood, in which it abounds; attraction of carbon for oxygen, as in the pulmonary arteries, in consequence of which venous blood and the air in the pulmonary cells have a mutual attraction, as recently pointed out by Professor Draper: all these are, doubtless, auxiliary agents, but their influence is trifling when compared with the contractility of the heart and capillaries, the elasticity of the heart and arteries, and the suction power of the heart and lungs.

In offering these remarks, we do not suppose we are bringing forward any new truths—but are we not sometimes in danger of forsaking old truth for new theories?

Mrs. Willard is widely and favorably known to the public, as the Principal of the Troy Female Seminary. She is a lady of masculine understanding, a good writer, an indefatigable student, and a most instructive companion—we trust we shall be excused if we add, she is *not* a physiologist. As a writer of histories, and geographies, and travels, she

may fairly compete with the best—but when she leaves her own domain, and claims a portion of the realms of physic, we deem it no more than just to look into her claims, and weigh them in the balance of truth and impartiality. Mrs. W's. theory may be learned from the following extracts:

"The object of the following Sections is to show that Respiration, operating by Animal Heat, produces an expansive Power at the Lungs; and thus becomes the principal efficient cause of the blood's circulation.

"1. *The Blood receives Caloric at the Lungs.*—A chemical combination of oxygen and nitrogen is inspired. A part of the oxygen is detained, and in its place carbonic acid gas and watery vapor are expired. Hence caloric must have been evolved, and from its nature, have passed the thin separating membrane, and infused itself through the blood in the lungs.

"2. *The Blood must therefore Expand.*—The expansion of fluids by caloric is a doctrine so perfectly understood and established, that it needs no comment, but it is important to our purpose to consider, that, in this case, *there must be a very considerable expansion.*

"The quantity of blood in the lungs has been stated by physiologists at one fifth of the whole—five pounds out of twenty-five. This receives caloric, not like water in a vessel over the fire, at one small surface only; but over a space, which has been variously estimated, but by all acknowledged to be great. Making a computation on Dr. Keill's statement, the blood at the lungs receives caloric over a surface equal to the area of a circle whose diameter is nearly seventeen feet, so that if the portion received at each particular point should be small, *the aggregate must be considerable.*

"3. *If the Blood expands it must move.*—This is perfectly evident, for to expand is to spring into a larger bulk, and the space which has contained the blood can contain it no longer; so that *this expansion must be a motive power.*

"4. *If the Blood moves from the Lungs, it must move towards the left ventricle of the heart, and from thence into the aorta, and so on through the arteries.*—For it must *of the two directions, take that in which it can move*, and not that in which it cannot. Here arises important considerations respecting the animal structure, as a machine made for receiving streams of a fluid, moved by the same agent which warms it; for it is not a power, like impulse, indifferent to direction. It is the antagonist principle to gravitation, and its natural tendency is upward."

Now, we do not purpose to go into a long examination of this theory, the mere statement of it must satisfy our readers that it is wholly untenable. It is well known that heat is generated in every part of the system, as well as the lungs. Wherever oxygen and carbon unite, there it is developed. But it is imparted to the *solids* equally with the fluids; it maintains the temperature of the whole body by radiation in every direction from the points where it is generated. The cellular action which is collectively exhibited in the metamorphosis of the animal organism, is now regarded by our ablest physiologists as purely *chemical*, and the heat that is engendered there is a consequence of these chemical processes. It is therefore believed that all those functions of the organism, which are necessary for the preservation of life, contribute directly or indirectly to the production of animal heat, so that it is developed at every point at which metamorphosis is occurring, and therefore, not merely in the lungs, but in the whole peripheral system.

Now the heat of the venous blood, as it reaches the right side of the heart, according to Davy, varies only two or three degrees from that of

the aorta—granting, then, that the blood receives three degrees of caloric in the lungs, it is very evident that the expansion produced by it, were it all exerted on the blood in the pulmonary veins, would be too small to be appreciable. The expansive power of three degrees of heat, were it applied directly to the blood in the aorta, would not increase its bulk, nor cause motion.

The *cause*, then, is insufficient to produce the effects. Moreover, if the circulation is carried on by heat produced by the respiratory process, how is it carried on in the fœtus before birth, or in the egg, or in animals that do not breathe by means of lungs—or cold-blooded animals? Mrs. W. supposes that the blood that goes to the head is the *hottest*, as heat ascends, and likewise more rarified. Experiment proves that this is not so, and that there is no difference between the blood circulating in the extremities and that in the head. But if all the heat, as Mrs. W. supposes, were generated in the lungs, it is difficult to see why the lungs are not hotter than they are: they would, in fact, be the furnace of the body, as some physiologists have maintained. Mrs. W. states the mean temperature of the blood throughout her work at seventy-eight degrees, instead of ninety-eight. We might go on and multiply objections to the theory of the circulation here advanced, but it is altogether unnecessary; no professional man, who has made himself acquainted with the structure and functions of the body, will be in any danger of adopting an hypothesis so much at variance with philosophy and fact. Still, the work is well written—the theory ingeniously and ably supported; objections very adroitly met, and altogether it will well repay an attentive perusal. The fair authoress states that she has had five thousand young ladies under her pupillage during the last thirty years. Those pupils, we doubt not, have had a very superior moral, intellectual, and physical training;—what a vast amount of good might result from a work on the physical education of females, the result of the vast experience, and extensive information of the intelligent writer. No one is better qualified to do justice to such a work than Mrs. Willard.

ART. XIV—*Scrofula; its Nature, its Causes, its Prevalence, and the Principles of Treatment.* By BENJAMIN PHILIPS, F. R. S., etc., Phil. Lea & Blanchard, 8vo. pp. 350.

THE frequent prevalence of scrofulous diseases, at the present day, and the empiricism displayed in their treatment, render a philosophical work on this subject peculiarly acceptable. The slightest acquaintance with medical literature is sufficient to prove that the most absurd and contradictory opinions prevail upon the nature of scrofula, the conditions which determine its existence, and the physical changes by which its progress is characterized, to say nothing with respect to its remedial management. The work of Hufeland, published in 1795, was in advance of all others on the disease, at the time at which it appeared, but it is now far behind the science of the age; the treatises of Lugol, Baudeloque, Carmichael, &c., are but imperfect sketches of a vast and important subject. That a complete essay on scrofula was still considered a desideratum, is proved by the fact that the Royal Academy of

Medicine of France, and the Medical Society of London, both made this a prize subject for the last year.

The work of Mr. Philips is immensely in advance of all others that have ever been written on scrofula, although the author treats of the subject only generally, and does not enter upon the various structural diseases, which may be set up in a constitution contaminated by scrofula. This would seem to be the proper course to pursue, as, for the most part, those diseases have in them nothing specific, their peculiarities being impressed upon them by the particular state of the system itself. These diseases would form an excellent topic for a future work, which we hope the author will undertake.

The author has extended his researches over a wide and most interesting field. It has been a fault with preceding writers, that they have not enjoyed a very extensive sphere of observation, or extended their inquiries so as to comprise the influence of the many causes, which are supposed to be capable of producing the disease. Mr. Philips, as physician to St. Marylebone Infirmary, has enjoyed very favorable advantages for observing scrofulous affections in every stage of development, but he has also investigated, with great care and labor, the condition of the people of Great Britain with reference to this disease—both in manufacturing and commercial towns, in agricultural districts, inland, and on the sea coast—whether living on good or bad food; vegetable, as in Ireland—or animal food, as portions of England. He has even extended his inquiries to Russia, Austria, Prussia, Bavaria, Portugal, Holland, France, Switzerland, Belgium, and America, to China and the East Indies, Egypt, Syria, and Greece; in short, we have for the first time presented to us, a body of authentic statistics bearing upon this disease,—collected with care, and arranged and classified in a philosophical manner.

In collecting information on scrofula, the author drew up a circular, containing the following queries:—"1. How many children were present at the examination? 2. How many presented the characters of the lymphatic temperament? 3. How many presented the ordinary marks of scrofula? 4. How many of the scrofulous cases were found among those of lymphatic temperament?"

He states, however, that he soon found it necessary to make his questions more precise, as scarcely two persons agreed exactly upon what constituted the lymphatic temperament, or what was scrofula. His 2d, 3d, and 4th queries, therefore, were changed for the following:—2. Number of such children who have decidedly fair hair, and light blue or light grey eyes, and a fair, soft skin. 3. Number of children exhibiting any of the following marks of scrofula; enlarged cervical glands, discoverable by the touch; sinuses, or ulcers, succeeding to such glands, scrofulous bones or joints, or the consequences of them. 4th. Number exhibiting the evidences of scrofula, described on the 3d column, and possessing the characters described in the 2d column.

The result of Mr. P.'s investigations shows that scrofula prevails to a much smaller extent than is generally supposed, and that the collection of large masses of people in comparatively small spaces, confinement in heated rooms, and sedentary employment, however prejudicial in many respects, have been accompanied by counteracting causes, which have lessened their baneful influence in so far as concerns the development of scrofula. Notwithstanding these unexpected results, the author is

an excellent advocate for improving the habitations of the poor, not only in town, but also in country districts; for improved modes of draining and ventilation; in short, for adopting all practicable measures for multiplying the comforts, and ministering to the happiness of the great body of the people. But after all that can be done in these respects, scrofula will nevertheless prevail, more or less extensively; for poverty will always abound, and poverty brings in its train cold and hunger—evils which act more injuriously than even bad drainage and imperfect ventilation upon the health of human beings.

Nature of Scrofula.—Mr. Philips considers scrofula to be a disease of the constitution, clearly manifested by external signs, of which swelling of the subcutaneous lymphatic ganglia is the most conclusive—not that *tumid* glands are always a proof that a constitution is scrofulous; as they may be the result of local irritation in an apparently untainted constitution. For example, we often see the glands in the groin swell from a sore on the foot; an inguinal gland from gonorrhœa, or an ulcer on the penis; a mesenteric gland from an ulcer in the intestine; a cervical gland from teething, or disease of the scalp. But where we find one or several cervical glands tumid, in the apparent absence of any obvious local irritation, it constitutes a very strong ground of a suspicion that the constitution is suffering under the taint of scrofula. To have this suspicion absolutely confirmed, it is necessary that we should examine the contents of the tumor itself. If the swelling is not accompanied by the deposit of a product, known as *scrofulous matter*, the proof of a scrofulous constitution is wanting. If, then, we regard the local affection as evidence of constitutional disease, it is important to be able to recognize that state of the constitution, which causes the local affection, and to know, in a given case, whether a person can be said to be scrofulous or not.

When we meet with what are often called scrofulous diseases, and no scrofulous matter can be demonstrated, as in ophthalmia, as it often prevails in poor-houses, orphan asylums, &c., Mr. P. denies that such affections can be strictly called scrofulous, but regards them as the result of inflammation set up in a debilitated state of the constitution. He moreover states that he knows no certain sign by which the state of the constitution, which precedes the deposit of scrofulous matter, can be recognized. We agree in this opinion, and believe that it will be found, on examination, that there is very great variety in the external characters of those who present undoubted scrofulous taint. When the taint is made evident by scrofulous deposits, we find in one case, the hair and complexion dark, in another light; in one the cheeks are rosy, in another pale; in one the *alæ nasi* are expanded and the upper lip tumid, in another both of these features present opposite characters; so that it becomes a matter of great difficulty to determine whether the presence or absence of those signs is most characteristic of a scrofulous constitution. There are some qualities, however, generally met with, in those tainted with scrofula, which are worthy of notice.

The muscular development is various, but there is often observed an appearance of plumpness owing to infiltration of the cellular tissue, which rapidly disappears under disease, privation, or fatiguing exercise; owing to feeble circulation, the surface is generally cold and pale; which in one-fourth of the cases does not, however, extend to the face; color of hair variable, more usually dark (of 9,000 scrofulous children examined,

32 per cent. had light hair and eyes), the *alæ nasi* may be broad, or the reverse; the upper lip may be tumid or the contrary; there is nothing constant in the shape of the lower jaw or teeth; the abdomen is commonly tumid; the whole of the mucous surfaces are liable to derangement; especially the digestive mucous membrane, as manifested by a coated tongue, foul breath, swollen tonsils, irregular bowels, depraved appetite, flatulence and acrid eructations, clay-colored stools, &c. The nose, eyes, and ear, are subject to frequent discharges; there is often incontinence of urine; the skin, especially the scalp, is liable to eruptive affections; there is a want of muscular, as well as vascular, energy; the intellectual faculties are not so much developed, as in other children, contrary to what is usually believed, although the physical and intellectual characters differ, according as the circumstances under which they live, are favorable or the reverse. In the habitations of the poor, we find the child with the scrofulous diathesis, often pallid, puffy, insensible, listless, and filthy. The skin dry, harsh, and frequently covered with eruptions—the mucous surfaces deranged, the attention not easily fixed or even excited—the senses obtuse—the mind greatly wanting in intelligence, unimpressionable, and almost incapable of action. But, on the other hand, those who are surrounded with comforts, and discreetly treated, and whose condition makes them objects of interest to those around them, present very different features of the disease, from those which mark the scrofulous child of the poor. On the whole it appears that the ordinary tests are fallacious, and that there are no features, in the absence of the tumor, so constant and so conclusive as to justify a reliance upon them, in pronouncing an opinion whether a constitution be scrofulous or not: after a scrofulous deposit is formed, there can no longer remain any doubt. The constitution may suffer long before such a deposit is made—the glands may be a long time enlarged before that event takes place; if favorable influences are brought to bear, the diathesis may be overcome, and health established; if the reverse, scrofulous matter will be thrown out, or the patient cut off by some other disease. Where this diathesis prevails, it is very certain that there is, both in the solids and fluids, the structure and functions of parts, before the deposit occurs, a wide divergence from the state of health. There is commonly a want of tone and energy in the solids, which incapacitates the person for proper exercise—a weakness of the muscular system, which leads to speedy exhaustion; and this impaired condition of the solids is doubtless owing to the vitiated state of the fluids; the blood is watery, the ratio of globules much lessened, the chyle is poor in quality, and all the secretory and excretory organs deranged; the patient often labors under that condition called by Dr. Todd *strumous dyspepsia.* What is called scrofula, often takes its origin in this derangement of the digestive organs.

Physical Character of the Scrofulous Deposit.—Scrofulous matter is deposited in various organs of the body, and varies in appearance with the varieties of the structure of the organ, in which it is deposited. If we take the subcutaneous, lymphatic glands, the matter presents the form of an amorphous, greyish, buffish, or yellowish mass, irregularly granular, and not unlike moist old cheese. When a gland is about to become the receptacle of such matter, it undergoes a change in structure, dependent on increased action; the matter is deposited in several points; these enlarge, and finally coalesce, while the intermediate tissue

of the gland disappears. Under the microscope, according to Albers, the *tubercle* presents separate minute tubes, which, under a magnifying power of 550, prove to be cells; but this is not the case with *scrofulous* matter which is granular—other observers tell us, that scrofulous matter, like all organic products, is composed of small globules, which have no connection with surrounding parts. "The whole material," says Mr. Dalrymple, "is composed of disintegrated tissue, granular molecules, irregular exudatious corpuscles, and in which the nucleolus is seldom to be recognized, and a considerable quantity of oil globules, which may be abstracted by boiling in ether, and recovered by evaporation on a plate of glass."

Chemical Characters.—Analysis shows that scrofulous matter is mainly composed of albumen, fat, or oil globules, and certain alkaline salts, the proportion of each varying in different cases.

It has been a question among pathologists, what is the state of the organ in which the product is about to be deposited? Every physician knows that glandular structures do undergo considerable change before scrofulous matter is deposited in them; increasing in volume, in density, and in vascularity, how is this state of the gland determined by the circulation within it—of blood which has undergone change? or is it independent of the blood? Does the blood fit the organ to receive the deposit, or does the organ fit itself? This is not a very easy question to solve. If the action set up is purely local, then we may, perhaps, find means to change it, and render it fit for the deposit. If it depend on a general contamination of the blood, why is it that all the lymphatic glands are not equally affected? But if far from this being the case, we find that the bronchial glands are affected twice as often as those of the mesentery; the latter four times as often as those of the neck; and the latter four times as often as those of the axilla and groin. The cause of the greater frequency in the glands of the mesentery is, doubtless, the irritation caused by depraved chyle, the result of bad or improper food; and this is kept up until the blood is sufficiently charged with improper materials to occasion a deposit to be made; the cause of the greater frequency of the deposits in the cervical than in the inguinal, or axillary, glands, is that they are more exposed to alternations of temperature, and to irritation; congestion is accordingly more rapidly developed in them, under the same amount of constitutional irritation, and the deposit more frequently made. If we examine an enlarged cervical gland, with a microscope of high magnifying power, we find it to consist of a general parenchyma, in a state of chronic inflammation, surrounding irregular masses of yellowish-white matter, adjoining which, we perceive the blood-vessels more enlarged and congested than elsewhere, and in some parts the capillaries are closed with coagulated blood. The parenchyma, which at first appears healthy, is found to be infiltrated with exudatious corpuscles, resembling lymph globules. The natural texture of the gland consists of its proper corpuscles, filamentous tissues, blood-vessels, lymphatics, and nerves. In short we find the filamentous tissue everywhere infiltrated, its fibres separated by innumerable exudatious corpuscles, and the proper corpuscles of the gland are similarly surrounded and imbedded. These appearances, especially the presence of exudatious corpuscles, before any scrofulous matter is deposited, authorize the conclusion, that the state of hypertrophy, with increased vascularity, is the result of inflammatory action. Broussais very truly remarks: "Never

are lymphatic ganglia tumefied, indurated, or softened, without an exaltation of their irritability, and their contractability; that is to say, by irritation, which is sub-inflammation."

More than one-sixth of the juvenile population of Great Britain, according to Mr. Philips, is affected with an inflamed or hypertrophical state of the sub-cutaneous glands, especially those of the neck, not always visible to the eye, but always to the touch—about two per cent. of these only proceed to suppuration. They are often dispelled by treatment, which proves that they did not contain scrofulous matter. When once deposited, scrofulous matter must remain, which, it is believed, is never removed by any process of absorption, until it is ejected externally. We often meet with these enlarged glands in the mesentery, and we recently found an enormous collection of scrofulous matter, mixed with calcareous deposits, in the mesentery of a female of middle age, who had, in former years, been afflicted with swelling of the cervical glands, which had suppurated and discharged an immense quantity of scrofulous deposit.

Source from which Scrofulous matter is derived.—The ancients supposed that scrofulous matter was thickened lymph, and hence they sought to find agents to thin it, and they believed they found them in purgatives and alkalies. There was something very plausible in the notion, that the lymph or chyle, in passing through the glands, met with obstructions in consequence of its having become gypseous, fatty, and viscid, and of course too gross for the small channels through which it had to percolate, thus leaving its grosser parts behind. At the present day, however, we are rather disposed to look to the blood for the source of such amorphous deposits; for though in the composition of healthy lymph, there is nothing repugnant to the belief, that scrofulous matter may result from the inspissation of that fluid, and though it may undergo considerable change in its composition, and concrete so as to assume a state more favorable for such deposits, yet it is now the prevailing opinion among pathologists, that the blood is the only fluid from which scrofulous matter is probably derived. We know very well that the blood itself undergoes most important changes in its composition, and that the more important of the ordinary secreted fluids, as the urine, the milk, &c., become changed, also, when those changes happen in the blood; and moreover, according to Philips and others, there is a co-existence between an altered condition of the blood, and the development of scrofula. Whether it stands to scrofula in the relation of *cause*, is perhaps not fully established. We find, by analyzing healthy blood, that it is composed of potash, soda, carb. and phos. of lime, albumen, fibrin, &c. These elements are also found in scrofulous matter, and yet scrofulous matter is not deposited in a healthy state of the blood. All that seems necessary to constitute scrofulous matter is, that the elements above mentioned should be differently combined; but as we do not meet with it in a state of health, it is, perhaps, fair to infer, that there must be a previous change, either in the blood, or in the organs through which the blood circulates. No one but Lugol, we believe, has ever pretended to discover scrofulous matter ready formed in the blood, although it has been stated that tubercular matter has been seen in this fluid; and yet, admitting Lugol's statement, it does not prove that the matter was formed in the circulating fluid. All we can prove, and it is perhaps sufficient, is, that in the state of health, the blood contains materials such as are found

in scrofulous deposits; that in particular states of the economy, these materials are increased or diminished; that when particular materials are increased, scrofulous deposits are more frequent, and especially, that these deposits are made in the cellular and other structures of the organ, and not in the lymphatic channels. We cannot, it is true, prove whether the process under which the deposit occurs, be one of secretion or excretion; whether it occurs in virtue of some peculiar action developed in part, and causing a new combination between the constituents of healthy blood—or whether, it is owing to the blood having undergone the change, before it has ceased to circulate, becoming overcharged with albumen and salts, and ready, when the ordinary excreting organs do not carry them off, to deposit them anywhere, and wholly independent of local action. However this may be, we agree with Mr. Philips, that the blood is changed before the deposit is made, that the accumulation of certain morbid materials in the blood constitutes what is known as the scrofulous diathesis or constitution, and that their deposition in the submucous lymphatic glands constitutes what we know as *scrofula*.

The agents by which changes are wrought in the blood, and consequently the solids, are alimentation, and disease. Bad food produces bad chyle, bad chyle imperfectly renews the blood, perverts its elements, diminishes, destroys, or augments its plasticity, causes the predominance of certain principles over others, and probably so changes the composition of the blood, as to determine in it non-analogous productions. Morbid states of the blood are also produced by the imperfect accomplishment of the functions of depuration, whether of the lungs, skin, kidneys, liver, or intestinal canal—if those matters, which are usually thrown off by these emunctories, are retained in the blood, they act as poisons; the circulating fluid not only undergoing a change in the quantity or quality of its materials, but also in its vitality. It should be recollected that 1000 parts of healthy blood contain 3.0 of fibrin; 127.0 globules; 80 solid matter of serum (albumen), 790 water.

Are Pulmonary Tubercle or Phthisis and Scrofula, in their nature identical.—This is an important question, and one which has caused no little discussion. The prevailing belief favors the affirmative, and the reasons usually assigned in its support, are that the deposit itself, and the circumstances under which it occurs, are supposed to be identical, and that phthisis is only a more advanced stage in the development of scrofula. Those who take this view of the subject tell us, that the only difference in the two diseases is in the seat of the deposit,—that the same temperament, and the same peculiarities of age and sex, predispose persons to contract both—that they offer the same anatomical lesions; that when scrofula has existed long, the signs of phthisis are almost sure to appear, and that almost all the children who die of scrofula, or tabes mesenterica, are at the same time phthisical. A scrofulous childhood, in the opinion of many, predicates a phthisical manhood. If we examine the recent works of Andral, Cruveilhier, Carswell, Hope and others, we find scrofula and tubercles placed so near together, so frequently confounded with each other, that it would seem that they considered both diseases as identical. Mr. Philips, as well as Albers, maintains, however, that they are essentially distinct. They differ, according to the latter, in the following particulars.

1st. Scrofula generally attacks the age before puberty; tubercles, the age of adolescence and manhood.

2d. Scrofula is presented in the form of swellings of single glands, the body being still well nourished, the surface often presenting a good color. The nutrition languishes by degrees, and so slowly, that for a long time no decrease in the bulk of the body is observable. Colliquative secretions, either by sputa or by sweats, are rare in scrofula. Almost the contrary of all this takes place in the tubercle disease. Scrofula is also more frequently accompanied by dropsy.

3d. The inclination to fever is very small in scrofula. Scrofulous atrophy is a state, which, from beginning to end, passes over without fever. The small excitement accompanying the development of scrofula in the commencement, mostly ceases when the disease is developed. In the tubercle disease, the excitement of the circulating system is, almost from the beginning, very considerable. In the case of pulmonary tubercles as well as those of the liver, kidneys, and serous membranes, there is a frequent pulse, even at the commencement. After they have progressed to a certain extent, and emaciation has set in, they do not prove fatal until hectic fever, with a frequent hard pulse, has been present for some time. In scrofula, however, we have torpor, instead of excitement.

4th. Scrofula attacks all organs, as the brain, lungs, liver, &c., but its principle degeneration, however, is not in those parts, but in the glands of the lymphatic system of the breast, the abdomen, the limbs, the pituitary membranes, mesentery, &c. If tubercular degeneration take place, it is apt to attack the organ primarily diseased, and there is less affection of the lymphatic glands.

5th. The matter of scrofula can be injected, that of tubercles very imperfectly so, if indeed it can be at all. The only author, we believe, who claims to have injected tubercle, is Macartney.

6th. There is an important difference between the two diseases, with respect to treatment. Scrofula proves curable in all forms, tubercles almost in none ; scrofula lasts a long time, tubercles hasten much quicker to an issue. Scrofulous swellings decrease considerably after cure, and often, apparently, disappear ; tubercles, when arrested in their development, decrease and ossify, but the decrease of volume is never so considerable as with scrofula.

7th. Scrofula favors greatly the development of other degenerations, as carcinoma, medullary sarcoma, or fungus hæmatoides. So also with tubercular disease. When in childhood scrofulous swellings, in different parts of the body, and swollen glands on the neck, appear, then in youth and manhood tubercles and phthisis connected with them, are apt to be formed. However, what produces a peculiar tendeney to disorganization, is not a disorganization itself. We might as well assert the identity of tubercles and scrofula, as the identity of scrofula and carcinoma, and for the same reasons. To the naked eye, there are no striking differences often between scrofulous and tubercular matter, and where they exist, they are probably owing to a difference of structure in the organs where it is found. Scrofulous deposits, however, in the sub-cutaneous glands, rarely present the characters which are so often apparent in the early stages of pulmonary tubercle, which has a grey, smooth, translucent appearance. This will also apply to the mesenteric and bronchial glands. At a later period, and after softening has commenced, there is no well-marked difference detected by the microscope, between the two. With respect to differences pathologists do not agree ; Albers, Sandrus, Lebert, and others, maintaining that the two kinds of mat-

ter present material distinctions, while Dalrymple and Gulliver discover no difference in the microscopical character of the two products. As "the analogies and the differences between tubercles and scrofula" was the subject named for the Portal prize for 1845, by the Royal Academy of Medicine of France, it is probable that the question as to their identity or difference will soon be settled. Chemical analysis does not show any important difference between scrofulous and tubercular matter, as they are both mainly composed, according to Prout, of incompletely developed albumen, with some salts. Their character, however, depends much on the period of development, the seat of the deposit, and, to some extent, their appearances are modified by the mode of examination. Whatever expectations may have been indulged with regard to the microscope and chemical analysis, as means of unravelling the difficulties presented by diseased structures, it must be acknowledged that those expectations have, to a considerable extent, been thus far disappointed.

We have stated, that previous to the deposition of scrofulous matter in lymphatic glands, their bodies become red, dense, and swollen, indicating the presence of inflammatory action; but where there are tubercular deposits in the lungs, we have no evidence whatever of preceding inflammation. In this respect, there is reason to believe that there is a marked difference between scrofulous deposits in glands, and tubercular deposits in the lungs. By this, we do not mean to be understood as expressing the opinion, that tubercles may not be developed as a consequence of inflammation, where a predisposition exists.

Mr. Philips states, that there is a difference as to the period when scrofula and phthisis destroy life, the former destroying more lives before, the latter, after the period of puberty. In London, for example, in 1840, of 21,667 deaths from consumption, 4,653, or 21 per cent. were under 16: there were the same year 347 deaths from scrofula, of which 208 or 60 per cent. were under 15. We find on examining mortality tables for different districts and countries, from 60 to 70 per cent. of those who die from scrofula, perish under the age of 15; while of those who die of phthisis, from 20 to 30 per cent. perish under the same age. From the Registrar General's Report, for the years 1839, '40, '41, '42, it appears that there was a preponderance in female mortality from phthisis, of 15 per cent.

Again, there is a marked difference in the relative frequency of the two diseases. In Great Britain, the deaths from tubercular phthisis amount annually to about 59,500—those from scrofula to 1200: the ratio which the one bears to the other is 1 to 50, and to the gross population, taking England and Wales, as 1 to 265 and 1 to 13,255. Now, it appears that the deaths from consumption are 19 per cent. greater in town than in the country districts, while those from scrofula are 100 per cent. less. In Russia, pulmonary diseases are comparatively rare, but scrofulous affections are extremely frequent. Mr. Philips states, that of 332 cases of phthisis that he examined, only 7 presented scars resulting from scrofula; and in 7 there was tumefaction of the cervical glands. Of 350 phthisical bodies examined by Louis, 35 had a tuberculous condition of the cervical glands: of 100 cases examined by Lombard, the cervical glands were affected 7 times: and in 73 cases of children, 7 times; Papavoine examined 50 tuberculous children, and found the same glands affected 26 times. Philips thinks he mistook

swollen for scrofulous glands. Tuberculous matter has been detected in the cervical glands only 6 times in 173 tuberculous patients. To sum up, we find that where the tuberculization of the system is most complete, not only is the lung studded with those deposits, but, in six-sevenths of the cases, the other thoracic and abdominal organs present them, while in not more than one-twelfth of the cases can a similar condition be detected in the sub-cutaneous lymphatic ganglia.

According to Philips, comparative pathology also shows a difference between the two diseases. In 1840, Rayer examined, after death, 241 dogs, of which only two were tubercular. A sheep driven into, and fed in marshy ground, where the food is watery, soon becomes the victim of tubercular deposits. Mr. Bakewell has shown that all that is necessary to produce these deposits is, during summer, to submerge a meadow, and drive the sheep into it in autumn. A rabbit fed in a damp, dark cellar, on watery vegetable food, soon becomes the victim of tubercular deposits. But, in all brute animals, the occurrence of any similar deposits in subcutaneous glands is comparatively rare. The disease called the "*measles*" in the hog has no resemblance to scrofula, being simply a deposit caused by the *larva* of the *Echinococcus;* although the term *Scrofula* has derived its name from this cause. It is stated by Simonds and others, that although the inferior animals are subject to tubercle, they are rarely if ever affected with scrofula.

It would seem then, by way of recapitulation, that with the exception of the deposit itself, which, whether found in the lungs or in a cervical gland—whether examined by the naked eye, by the microscope or by chemical analysis, is very similar; the circumstances attendant upon the development of scrofula and phthisis are widely different.

In scrofula the gland undergoes considerable change, inflammatory in its nature, before the matter is deposited in it. In the lung we commonly find the tissue around a recent simple tubercular deposit unchanged by inflammation.

We find, further, that in districts where the causes of phthisis act with most intensity, those of scrofula fall the lightest; that the age when the ravages of scrofula are most keenly felt, is precisely that when the visitation of phthisis is least to be apprehended; that the sex which suffers most severely from one of these diseases, is least affected by the other: and finally, among the numerous victims of phthisis, at least 18 out of every 20 exhibit no marks of having suffered from scrofula. These facts seem to warrant the conclusion, that there is a marked difference between the two affections;—that although they possess a general similarity of character, there is no identity; that as to the prevalence of scrofula in Great Britain, Mr. Philips has shown, from an examination of 132,721 children in schools and factories and poor-houses, among hospital and dispensary patients, &c., that scrofulous scars are apparent in about $1\frac{1}{2}$ per cent.; that the subcutaneous glands are enlarged, so as to be perceptible to the eye, in less than 3 per cent.; that the glands may be detected by the finger in $24\frac{1}{2}$ per cent. of those of the children of the poor who are under 16, and in 8 per cent of those above; or, taking the entire population, in 10 per cent.; and that something less than 3 per cent. of the population are under treatment for the disease in its various forms. Returns also show, that of 95,586 recruits examined, all having the requisite height, 800, or 1 in 119, were rejected for marks of scrofula. Out of 1,255,297 patients, including infirmaries, hospitals,

&c., of Great Britain, 3,187, or 1 in 80 of the patients, are registered as cases of scrofula, and 19 out of 1000 cases at one of the infirmaries for children under 13 in London. Taking, then, the children of the poor, in England and Wales, the proportion between the ages of 5 and 16, who present marks of scrofula (such as enlarged glands, scars resulting from their suppuration, or diseased bones and joints of a scrofulous character), amounts to 31½ per cent.—a much larger proportion, it is believed, than can be found in this country, except among the poorest class of population in our large cities. The registered mortality from scrofula, contained in the Report of the Registrar General of Great Britain, amounts to 8 per 100,000 of the gross population of England and Wales; that is to say, the average annual deaths from scrofula are about 1200, the population being about 16,000,000. As might be supposed, the disease prevails very unequally in different districts, ranging from 11 per cent. among poor children under 15, up to 72 per cent.; and the same unequal prevalence is found in this country. The recruiting returns of Great Britain, for example, show an average rejection of 8 per 1000 for marks of scrofula, that of London being 5, Edinburgh 16, and Dublin 13 per 1000. In this country but very little has yet been done to gather up the statistics of scrofula. We have given on page 141 Mr. Philips' questions, as embraced in his circular, and will be very glad to receive and publish replies to them, which may be forwarded to us by our correspondents, and physicians generally throughout the United States. Schools, orphan asylums, poor-houses, dispensaries, &c., furnish good opportunities for making such investigations, and we again request the profession to forward us the results of their inquiries on this subject.

According to Dr. Parkman of Boston, the House of Industry of that city includes 98 boys and 48 girls, total 146 children, of whom 106, or 70 per cent. have marks of scrofula. Dr. Samuel Jackson of Philadelphia reports of 1641 boys and 1357 girls, total 2,998 children between 6 and 16 years of age, who attend the different schools of that city, but 10 boys and 3 girls (13) as scrofulous; and he observes that he has been struck with the small number of individuals manifesting any decided marks of scrofula; that in the Alms-House Asylum, including 56 children, where he expected, from the class of children, to find decided evidence of scrofulous diseases, it was very slight;—indeed he found but one scrofulous case. In the Locust Street School (for boys), 276, one scrofulous case only; in the S. E. Secondary School (boys), 89, Spring Garden (do.), 176, Model School (do.), 271, Schuylkill Public School (do.), 342, Locust Street School (for girls), 204, S. E. Secondary School (do.), 261, Spring Garden (do.), 218, Black School (do.), 119, Schuylkill Public School (do.), 317, amounting in all to 1997 children, from 6 to 16 years, *not a single scrofulous* child was discovered; although Dr. J. states, that he extended the signs of scrofula beyond those presented in the table of Mr. Philips. Out of the 2998 children attending all the schools and institutions examined, *but 5 had enlarged cervical glands, or cicatrices.* Dr. J. states, that in examining the children, the hands were carefully passed over the neck of every individual, and wherever the cervical glands could be felt it was reported, with two exceptions. "Scrofula," says Dr. J., "is not a frequent disease in this country. phthisis is very prevalent. Is there not a marked distinction between tuberculous disease and scrofula? In the course of my observations I

have not often met with patients who are affected with scrofula in whom the tubercular disease occurred. I have been rather impressed with the notion that scrofulous patients were in some manner exempted from the tubercular form of disease." According to Dr. Emerson, there were 177 deaths from scrofula in Philadelphia in 20 years (from 1807 to 1827), under 20 years of age, being in the ratio of 1 to 130 of the whole number of deaths; also 327 of tabes, atrophy and marasmus, most of which were probably cases of a scrofulous affection of the mesenteric glands, making 1 in 70 of the whole number of deaths. This statement is hardly reconcilable with the results of Dr. Jackson's examinations.

With respect to the prevalence of scrofula in the city of New York, an extensive observation made during a dispensary practice of several years among the lower classes, has satisfied us that scrofula is a frequent disease among us. Dr. Griscom who has had much experience in dispensary and hospital practice, remarks that "this disease is the great scourge of the pauper population. It exhibits itself in the skin, in the eyes, the viscera of the abdomen, and of the chest, in the muscles and in the bones; in fact every organ of the body which is dependent for its healthy condition upon a sound state of the blood (and there is no exception), may, and does give evidence, differing in each case, of the influence of this degeneration, and the great prevalence of its producing causes." If we give to the term *scrofula* the extended meaning which Dr. G. attaches to it, there can be no doubt that it is a very prevalent disease in New York city; but if we limit it as does Mr. Philips, to cases in which there is either a cicatrix or swelling of the cervical glands, the number would be comparatively few. We find that there have been reported, from the year 1804 to the year 1838, but 329 cases of death from scrofula in the city of New York, being in the ratio of 1 to 366 of the whole number of deaths; under *Marasmus*, which includes deaths from decay, debility, tabes mesenterica, and atrophy, there have been reported 1384, being 1 to 27 of the whole number of deaths. A considerable proportion of these, how large it is impossible to tell, died of a scrofulous affection of the mesenteric glands. In 1842 there were reported 56 deaths from scrofula, being 1 to 146 of the whole number of deaths, and 1 in 6160 of the whole population (345,000). Mr. Philips has been somehow led into an egregious error, in his account of the mortality from scrofula in this city. He says: "Taking the population of New York in 1840 at 345,000 in round numbers, and taking the deaths from scrofula as reported, at the average of 35 years, at 4,278, we find that the annual deaths from scrofula bear to the total population, a proportion of 1 to 1241; in Philadelphia, the proportion is 1 in 453; while in London, the same year, the proportion is, in round numbers, as 1 to 17,500." The actual number of deaths from scrofula reported in 1840 in New York, was 40 out of 7,868 deaths, the population being 311,852; this gives 1 in 7,796. Instead of 4,278 cases of scrofula for one year, we have seen that there were only 329 cases reported in 34 years in this city, which makes considerable difference. Mr. Philips makes the disease about three times as prevalent in Philadelphia as in New York, whereas exactly the opposite is nearer the truth. There is, we believe, far more scrofula in New York than in Philadelphia: and the reason is, that a much larger proportion of the population live in cellars and basements. Dr. Griscom ascertained, when he was City Inspector in 1842, that there were in this city in 14

wards, 1,459 inhabited cellars, and 7,196 residents; while there were 1,727 courts and rear buildings, and 6,618 *families* residing in them. "In Philadelphia," says Dr. Jackson, "with the exception of the very lowest classes of the Irish and negro population, included chiefly in the district of Moyamensing, the poorer classes live in small two or three story brick houses, most of which have two rooms on the floor, a front and back room, usually from 12 to 15 feet square, and with a small passage and stairway. Day-laborers, hand and loom weavers, chop-men, carters, &c., according to the size of their families and means, occupy from one room to a half of the house; often, in this class, each floor is occupied by a family. The houses are dry, well ventilated, and comfortable. *None of the poor live in cellars*, with the exception of the lowest negro classes in Moyamensing."

Mr. Philips arrives at the conclusion that scrofula is much less prevalent at the present day than it was during the 16th and 17th centuries. It appears from the registers that were kept, that King Charles II. touched for scrofula (*King's Evil*), from 1600 to 1664, 23,601 persons, and from 1667 to 1684, 68,506, or a total of 92,107 in a period of 12 years. Most of these, Mr. P. thinks, were inhabitants of the metropolitan district.

(To be continued.)

ART. XV.—*Elements of Physiology, including Physiological Anatomy, for the use of Medical Students.* By WILLIAM B. CARPENTER, M.D., etc. With 180 Illustrations. Philadelphia: Lea & Blanchard. 8vo., pp. 566.

DR. CARPENTER has fairly earned a place among the most distinguished medical writers of the age. He has a mind of a purely logical and philosophical cast, fitted for physical investigations of a recondite and difficult nature; with a patience that nothing can weary, and a perseverance that nothing can overcome. As a physiologist, he ranks undoubtedly among the very first of our times; and as a luminous, accurate, and discriminating author, on this subject, he has, as it seems to us, distanced all living competitors.

Nothing comes from his pen but what is stamped with genius. His power of analysis is great; his learning extensive; his command of language peculiarly felicitous. In his former works it would seem that he had exhausted the subject of physiology. In the present he gives the essence, as it were, of the whole. His aim seems to have been to give the student as clear ideas as possible of the principles of the science, to point out the manner in which these principles should be applied, and to give an outline of the most important facts which indicate the nature of the various changes taking place in the living organism. This he has accomplished in a manner which leaves nothing to be desired; everything being brought up to the present condition of the science.

ART. XVI.—*Fevers, their Diagnosis, Pathology, and Treatment.* Prepared and Edited, with large additions, from the Essays on Fever in Tweedie's Library of Practical Medicine. By M. CLYMER, M.D. Philadelphia: Lea & Blanchard. 1846.

As this work will not admit of analysis, we can only recommend it, as one of the best hitherto published on the prolific subject of Fever. Dr. Clymer has brought to his task all needful erudition and experience, and his additions, which are numerous, are the most valuable part of the volume to American practitioners. His remarks on Typhoid Fever are eminently judicious and practical. Such a work was wanted at this time, to post up the results of recent observations and improvements, and those who have it at hand, will rarely have to seek elsewhere for guidance in the management of this most extensive and important class of diseases.

ART. XVII.—*The Mineral Springs of Western Virginia, with remarks on their use, and the diseases to which they are applicable.* Second Edition. By WILLIAM BURKE. New York: Wiley & Putnam. 1846. 18mo., pp. 394.

THIS is a second edition of a well known work on the Springs of Western Virginia, and contains all that the invalid and traveller will need, as a safe guide to the use of these waters. Dr. Burke is the proprietor and physician at the Red Sulphur Springs, where he has resided since 1832. His statements, we believe, may be relied on, with respect to the extraordinary powers of the water as a curative agent, although to many they may have the semblance of exaggeration.

Dr. B. gives the following account of their effects:—

"The introduction of this bland substance in a fluid condition into the system *must* exert a great influence on the circulation, and consequently on the mucous surfaces that are in a morbid condition; and when we consider that a greater portion of the fluids taken into the stomach is *directly* conveyed into the circulation by the absorbents, we can at once perceive that the great hygienic power of this water is dependent on the characteristics enumerated, all of which combined act as a singular alterative in equalizing an excited circulation, in correcting the highly acrid and vitiated secretions of an irritated mucous membrane, by modifying the fluid that supplies the matter for that secretion; and that by sending to the heart and lungs also a diluted instead of a highly concentrated supply of blood, it calms those organs by producing in the latter a condition favorable to the proper performance of their function of oxygenation, and by soothing the irritation of the former, causing it to send forth its streams with a milder impetus, and, moreover, by diffusing more equally the capillary circulation, and in return obtaining not only a more moderate, but a more healthy supply.

"Suppose, then, an irritated feverish condition of the mucous membrane of the bronchi or alimentary canal to exist when this water is taken into the stomach, it is refrigerant, bland, pure, yet abounding in subtle and invisible power: what is the probable mode of action? Why, reasoning from analogy, we must conclude that its first impression is on the nervous expansion with which it comes in contact: this sends the pleasura-

ble sensation to the brain; this urges into activity the absorbents; these convey the tranquillizing influence to the circulation; and this influence is again returned to the modification of the irritated surfaces. The external capillary circulation is restored to its rightful balance; the skin and the kidneys perform their appropriate functions; in a word, the normal condition is restored, and all is smooth and calm as the unruffled ocean.

"But if, on the contrary, a *hard*, harsh water, loaded with saline ingredients, comes in contact with a surface in the condition supposed,—what may reasonably be expected? Why, evidently that the nerves will be distressed, the circulation still further depraved, the heart excited to unnatural action, the irritated surface still further engorged, the arterial action increased, respiration hurried, and all the functions of the external and internal organs abnormally performed."

"It is not probable that the absorbents of the stomach have the power of discriminating between one fluid and another; hence it is that, whether pure water or alcohol is presented to its surface, it is thrown into the circulation; but not so with the kidneys or skin, or mucous surfaces; they probably resist the obnoxious article for a while, but when again and again presented, it overpowers their energies, and first, abnormal functions, and next, organic lesion, is the consequence. It will readily be seen, then, in chronic affections of the organs of respiration and of the abdominal viscera, if these affections amount to *irritation or subacute inflammation*, that the Red Sulphur alone, of the Sulphur waters, is admissible."

According to Dr. Hunt, who has written a good paper on the Virginia Springs:—

"The Red Sulphur is decidedly sedative in its effects. It subdues chronic inflammation, tranquillizes irritation, and reduces the frequency of the pulse in the most astonishing manner. It has been considered peculiarly adapted to the cure of pulmonary diseases, and it is true that it has a most beneficial effect in most cases of this disease; but its good effects equally extend to all cases of subacute inflammation, whether seated in the stomach, liver, spleen, intestines, kidneys, bladder, and most particularly in the mucous membrane. *In fact, nature never yet gave to man a remedy capable of more extensive application, nor better calculated to relieve a large class of diseases.*"

We also give Dr. H's experience of the effects of the Red Sulphur Springs, in his own case, which, we believe, was one of phthisis:—

"On the evening of my arrival at the Springs, I commenced the use of its waters. The next day, during a violent paroxysm of coughing, a coagulum of blood was discharged from the lungs, which was followed by considerable hemorrhage. After this, the cough became less troublesome, but the evening exacerbations of fever and the night sweats continued, my pulse beating 115 strokes in a minute. I confined myself to a low diet, and drank six glasses of the water during the day, namely, two before breakfast, one at 11 A. M., one at 5 P. M., and two at bed-time. The water acted freely on the bowels, and particularly on the secretions of the liver. In ten days, the abdominal viscera were entirely relieved, the pulse reduced to 78, and the fever and night sweats had ceased. The quantity of water was now increased to twelve glasses during the day, taken at the same hours, but in double doses. It acted very gently on the bowels and skin, but most powerfully as a diuretic. Thus it appears that in small quantities the water acted freely on the bowels, and but little on the kidneys, while in larger quantities it acted freely on the latter, and scarcely affected the former. In fact, I could direct its action to the one or the other at pleasure, by increasing or diminishing the quantity. My cough became better, but my strength still continued

feeble, owing to my extremely low diet, and the copious action of the water. Unfortunately I took but little exercise, which I deem all-important while using the waters.

"After a residence of three weeks at the Springs, and the constant use of the water during that time, to the manifest alleviation of the most pressing symptoms of my complaint, I was unexpectedly called home, in consequence of the illness of a member of my family In the commencement of my homeward journey, my weak state compelled me to make very short stages; but as soon as I had crossed the mountains, and resumed my usual mode of diet, my appetite and strength returned rapidly, and I completed the distance of 306 miles in five days, without feeling the slightest inconvenience. The water seemed to produce its good effects in the improvement of my health for months after I had left the Spring."

The temperature of the water is 54° Fah.—gaseous contents in a yellow sulphuretted hydrogen 4.54 cubic inches—carbonic acid, 8.75—hydrogen, 4.25—solid contents, of 32 cubic inches of water, gr. 1.25, consisting of sulphate of soda, lime and magnesia, carbonate of lime and muriate of soda. Besides these ingredients, the water contains, in considerable quantity, a peculiar organic substance, which, mingled with sulphur, is deposited on the sides of the spring, and seems to increase by a kind of organic growth.

There is good reason to believe that the water is decidedly sedative in its effects, subduing chronic inflammation, tranquillizing irritation, and reducing the frequency of the pulse.

The work contains a good deal of irrelevant and controversial matter, which we should hope to see omitted in future editions, as it detracts rather than adds to its value.

Art. XVIII.—*Five Dissertations on Fever.* By George Fordyce, M.D., etc. 2d Am. Ed., with an Introduction. Phil.: Barrington & Haswell, 8vo., pp. 403. 1846.

We here recognize an old and valued acquaintance under a new garb. Fordyce is one of those authors that may always be read with profit, as his descriptions are drawn from nature, and sketched with a master's hand. For a true history of the phenomena of fever, and the indications of treatment, we shall seek elsewhere in vain for anything more satisfactory; we have facts without hypotheses, and reasonings founded on demonstrated truths. As an example of correct, clear, and explicit views, we may refer to Dr. Fordyce's account of the *modus operandi* of antimony, and the indications for blood-letting; to his history of simple and irregular intermittent fever, and simple and irregular continued fever, corresponding to the typhoid and typhus of the present day; to the regimen to be pursued in fever, etc.; on all these subjects, we find sound, judicious, and practical advice,—directions which were in advance of the times when he wrote (1770), and which may be consulted with much profit by practitioners of the present day. The able editor has done his part well, and among other improvements introduced, we find the Dissertations have been subdivided, and each division preceded by very full contents; a full index is also given. We take pleasure in recommending this work to our readers, for it is well worthy their attention.

ART. XIX.—*An Introduction to Entomology, or Elements of the Natural History of Insects, comprising an Account of Noxious and Useful Insects, of their Metamorphoses, Food, Stratagems, Habitations, Societies, Motions, Noises, Hibernation, Instinct, etc., etc.* With Plates. By W. KIRBY, F.R.S., and WM. SPENCE, F.R.S. From the 6th London Ed. Phil.: Lea & Blanchard, 1846. 8vo., pp. 600.

THIS work of Messrs. Kirby & Spence is too well known to the lovers of natural history, to need any commendation from us. The first edition appeared as long ago as 1815; since which time it has been in constant demand, as the great store-house of facts connected with every branch of entomology. The pursuit of this department of natural science is not to be regarded as a frivolous amusement, or as devoid of utility, especially by the medical man, whose inquiries necessarily range through the entire domain of Nature. Some insects are employed in medicine; many inflict serious injuries on man and beast; not a few seek their habitation in his flesh, or intestinal canal; and all have habits and characteristics worthy of study and investigation. The time has gone by when the student of entomology need fear the fate of Lady Granville, whose will was attempted to be set aside on the ground of lunacy, evinced by no other act than her fondness for collecting insects.

The work is not only one of the best on this subject ever written, but it is got up in superior style, and illustrated by well executed plates.

ART. XX.—*Animal Magnetism, or Psychodunamy.* By Theodore Leger, Doctor of the Medical Faculty of Paris, etc. New York: D. Appleton, 12mo., pp. 402.

THIS work contains a very good history of animal magnetism, including the first and second reports of the French Academy, together with the discussions that grew out of the reports, when presented. It is interesting to read the opinions of such men as MM. Desgenettes, Virey, Bally, Orfila, Double, Laennec, Mar, Itard, Recamier, Georget, Majendie, Guersent, &c., relative to the claims of animal magnetism. These reports and discussions occupy 211 pages of the work; the balance is devoted to the history of the science, from the most ancient times, down through the Egyptians, Hebrews, Greeks, Romans, Gauls, &c. We then have a very full account of Mesmer, and his discoveries, of experiments in the Parisian hospitals, and of Mesmerism, in England and the United States. Dr. Leger gives but very little in relation to what he has himself observed; he quotes the Tribune in favor of his skill—states that in 32 months 445 patients have been examined by his blind somnambulist (Harriet of Peale's Museum!) of whom 231 have been cured, 81 relieved, 1 died, 27 unrelieved—a greater ratio of success than Fleischman or Dr. Henderson can boast of.

ART. XXI.—*The Chemistry of Man.* By Dr. J. FRANZ SIMON. Translated by THOMAS E. DAY, A.M., etc. In 2 Parts; Part 2 (Complete). Lea & Blanchard, 8vo.—2 vols., pp. 717.

THIS excellent work, the most complete on animal chemistry that has ever appeared, has recently been issued by the publishing house of Lea & Blanchard, after the Sydenham edition of London. No physician, who desires to keep pace with the improvements in our science, or to be prepared at all points for the successful treatment of disease, can remain ignorant of physiological and pathological chemistry; and he will seek in vain for as complete and accurate a work on the subject, as he will find in the elaborate and finished treatise of Dr. Simon. The work is replete with facts of the highest interest, calculated to reflect a broad blaze of light on the pathology and treatment of many diseases, hitherto involved in obscurity. We trust it may have a universal circulation among the profession in this country.

ART. XXII.—*Essays on Pathology and Therapeutics*, being the Substance of the Course of Lectures Delivered by SAMUEL HENRY DICKSON, M.D., Professor of the Institutes and Practice of Medicine, in the Medical College of the State of South Carolina, 2 vols. 8vo. pp. 588, 651.

WE take blame to ourselves for not having sooner called the attention of our readers to the very able work of Professor Dickson, whose title we have given. The multiplicity of books of every kind, which crowd upon our attention, renders it impossible to give anything like an account of even their contents, and it is by no means strange that some should escape us, whose merits deserve a far different fate. The work of Professor Dickson, though modestly entitled "Essays," &c., is in fact a very complete treatise of general pathology and the practice of medicine. It embraces a wide range of subjects, including all the more important diseases, and whatever topic comes under discussion is treated in a very able and satisfactory manner. The style of Dr. D. is peculiarly happy; combining elegance, simplicity, and strength, in an unusual degree. In this respect, his work may well stand as a model for future writers. We know no work on the practice of medicine, that we can more cheerfully recommend to our readers, than this of Professor Dickson.

ART. XXIII.—*Results of Hydropathy, etc.* By EDWARD JOHNSON, M.D. New York: Wiley & Putnam. 12mo., pp. 181.

DR. JOHNSON is the proprietor of a hydropathic establishment, at Stanstead Bury, Eng., and the author of two or three medical works of some merit. He is evidently no ultraist, for he states his object to be, "to

preserve all that is good of the drug treatment, and unite it to all that is good of the water treatment—using both—abusing neither;" such, we take it, is the aim of every honest medical man. We shall quote a few passages, from which may be gathered some of the views of the author, who, it should be stated, studied the water treatment under Priesnitz himself:—

"When it is considered that this treatment consists mainly in the frequent use of cold baths of various kinds—in restoring and promoting the natural functions of that much neglected organ, the skin, by frequent sweating under accumulated bed clothes, and by the wet sheet vapor bath—for the wet sheet is neither more nor less than a very neat, convenient, and mild vapor bath—in almost constant exposure to the healthful influence of a salubrious air—in strict attention to diet—in daily systematic exercise, on foot or on horseback, or both, regulated according to each patient's strength—in complete mental repose—in early rising and early retirement—the absence of all unwholesome causes of excitement, &c., &c.,—when this is considered, and when it is further remembered that *every one* of these things *separately* has always been strongly insisted upon by medical men in all ages, as highly conducive to health, and as possessing a certain amount of remedial power—when, I say, all this is remembered, there will scarcely be any, I think, who will not acknowledge that this treatment *must* possess at least *some degree* of remedial virtue. For, if each of the several parts of which the whole treatment consists be acknowledged, on all hands, to possess in itself a curative influence, certainly when they are all brought to bear upon the system at one and the same time this curative influence cannot be diminished, but must, on the contrary, be vastly increased.

"The *whole* treatment, however, is neither applicable to all diseases, nor can it be safely administered to all constitutions. Neither can it ever supersede the legitimate use of medicine or the lancet—nor would I admit into my house any person who would not permit me to have recourse to these, should any sudden emergency or undoubted occasion arise, which, in my judgment, called for their use.

"But that there is a very large number of diseases and diseased conditions in which drugs are worse than useless, but which can be perfectly cured by this treatment, I am as certain as I am of my own existence."

"I have said the *whole* treatment is not applicable to all diseases and all constitutions; but I may safely add that there is no disease to which it is not applicable *in part*—for there certainly is no disease which will not be more or less benefited by attention to diet—mental repose—almost constant exposure to a salubrious air—great attention to the state of the skin—daily exercise, &c., &c.—all of which constitute important parts of the treatment. It is a great error to suppose that this treatment consists *merely* in perpetual sweatings and bathings—although, where these can be safely borne, they constitute the fundamental part of it. It is capable of great modification, therefore, and must always be so modified as to suit the particular circumstances of each particular case.

"I have also said that it can never supersede the legitimate use of medicine and the lancet. Certainly not—first, because there are some diseases, though I confess they are not many, which imperatively demand the use of these—and, secondly, because people cannot be always running away to a hydropathic establishment upon every attack of illness (and it can never be successfully practised at home), nor can all persons afford either the time or the money. It can never come into general use except for severe *chronic disorders*, in which the old system has been tried and failed—and until the time shall have arrived when the profession generally shall adopt it, to a greater or less extent, as a part of the ordinary treatment of acute inflammatory and febrile diseases—to which

the wet sheet is admirably well adapted, and in which it is capable of becoming a most important accessory. I most unfeignedly believe that there is no single remedy, except the lancet, capable of conferring such signal service in acute diseases as the wet sheet. And the time must inevitably come when medical men can no longer hold out against the use of this most simple, neat, safe, efficacious, and common-sense remedy."

The idea that water can only be properly used at a hydropathic establishment is absurd. It may, and probably will, be employed more advantageously at home. It would, doubtless, be a fine thing for the proprietors of these water institutions, if they could persuade the public to believe that no one understood the use of water but themselves; but we apprehend there is no great danger of such a result. We believe it to be the duty of the profession generally, to study more closely the effects of the various applications of water as a remedial agent, with a view to its more general employment in the treatment of disease; and in this way give no excuse for the establishment of institutions by those who really are, for the most part, more ignorant of the proper use of water than the common people themselves.

PART THIRD.

American Intelligence and Editorial.

MEDICAL JURISPRUDENCE.

We have recently had two cases of trial for murder in this State, in which the plea of insanity was offered in justification of the act. The first was that of Wyatt, a prisoner at Auburn, who killed a fellow-prisoner by stabbing him with a knife; the second was that of the black, Freeman, for killing the Van Nest family. Both trials took place at Auburn. We allude to the first case particularly, as we do not recollect to have seen so large an amount of medical testimony offered in relation to insanity, as was brought forward on this trial: some of the ablest medical men in the State, including Drs. Brigham and Coventry of Utica, and Spencer of Geneva, were in attendance. The prisoner was found to be sane, and sentenced to be hung.

The second case where the plea of insanity was made, was that of William Freeman, an ignorant and deaf colored man, of the age of 23. When the prisoner was brought up to be arraigned, Mr. Seward put in a plea alleging that he was insane; and as an insane man cannot be tried by the laws of this State, it became the duty of the Court to determine the truth of that plea before putting the prisoner on trial upon the indictment. We shall allude to the evidence in a future number of the Journal. The jury found the prisoner sane. He was then arraigned upon the indictment, was found guilty, and sentenced to be hung on the 18th day of September next.

We have not seen the evidence in this case. It appears from the Judge's charge, that, at the age of 16, Freeman was engaged in petty thefts, and in 1840 was convicted of stealing a horse of Mrs. Godfrey, for which he was imprisoned 5 years in the State Prison. This term of imprisonment expired in September, 1845, when he was found to be deaf, and impressed with an idea that he had been wrongfully convicted, and was entitled to compensation for his time and labor; and upon his discharge, he called upon Mrs. Godfrey; and on her refusal to pay him, he applied to two magistrates for process against her and the other persons who had been instrumental in his conviction. These applications being refused, he appears to have reasoned himself into a belief that the laws of the country afforded him no protection against oppression and injustice.

"He then prepared a butcher knife, and a club with a knife inserted in the end, and on the night of the 12th March last, soon after nine o'clock, approached the house of the deceased—there lay in wait till he saw a man, who had passed the evening with the family, leave for his home; and then meeting Mrs. Van Nest, who had retired to the yard, stabbed her so that she died in a few moments: then entered the house and

stabbed Van Nest to the heart, of which he instantly died; thrust the knife through the body of a child two years old, while asleep in the bed; attacked and wounded Van Arsdale, who had retired to the chamber; and at the door and gate attacked and wounded Mrs. Wickoff, the mother of Mrs. Van Nest, of which she died on the 14th of the month; thus destroying the lives of four persons, and endangering that of the fifth.

"He then stole a horse from the stable, which fell with him after being ridden about two miles. He then proceeded a short distance, when he stole another horse, and escaped to the town of Schroeppel, in Oswego county, where he was arrested."

In the defence, some of the best talent in the country was exerted, and the attendance of medical men from Albany and Utica procured, to testify as to his insanity. A large number of respectable men, some of whom had known him from childhood, both in and out of the prison, testified that they never had discovered or suspected anything like insanity in his conduct before the murder. And after hearing all the proof adduced to sustain his defence of insanity, at the time of the murder, the jury decided that he was not insane, but a responsible man.

From the newspapers we learn, that when called up to be sentenced, his Honor, Judge Whiting, beckoned him to come near him, which he did, occupying the witness' stand. The Judge, speaking loud, asked him if he knew what he was there for, to which he signified that he did not. He was then asked if he remembered John G. Van Nest, to which he answered, yes. To the question, do you know who killed him? he made the same answer. After some further questions and explanations of his situation, which, apparently, he did not fully understand, the Judge, pointing to the Jury, said, The Jury, there, say you did kill him, and we are going to sentence you to be hanged [the prisoner here appeared very sensitive]; do you understand that? He answered, *yes.* He was then asked if he had anything to say against it—anything to say to the Court; to which he replied he didn't know. Sentence was then pronounced.

Among other remarks of Judge W., we find the following:

"While we give full effect to the plea of insanity as an excuse for crime, we learn with great satisfaction that there is, in the common sense of the community, intelligence enough to discriminate between acts originating in moral depravity and ignorance, and those which proceed from the impulse of disease. The rule by which a man must be judged, is, whether he had knowledge of right and wrong in regard to the act for which he is on trial. If he had, he is responsible, and is neither an idiot nor an insane man. By that rule the prisoner has been tried, and convicted. And whatever theories learned men may create, there is no other which can be safely introduced into a court of justice.

"We trust that the prisoner, during the term of life which remains to him, will receive the care and instruction of good men, to enlighten his darkened mind to a true sense of his condition, and to prepare him for the change that awaits him. For this purpose the Sheriff will, no doubt, admit the visits of all such as are disposed to see him.

"The judgment of the law is, that the prisoner at the bar, William Freeman, be taken from this place to the place from whence he came, there to remain until Friday, the 18th day of September next, and that on that day, between the hours of one and four in the afternoon, he be taken from thence to the place of execution appointed by law, and there hung by the neck until he shall be dead."

Of course, in the absence of testimony, we can form no conclusive opinion as to the merits of the above case, whether the individual was denied by nature, or had lost by subsequent treatment, the possession of those faculties, on the due development and exercise of which, responsibility must, in a measure, depend. We may, however, be permitted to doubt, whether there "is in the common sense of the community, intelligence enough to discriminate between acts originating in moral depravity and ignorance, and those which proceed from the impulse of disease." We should be very happy to find, that there was in the common people a degree of knowledge and wisdom competent to arrive at such a desirable result; it would certainly obviate one of the greatest difficulties in medical jurisprudence, viz.—to distinguish between acts springing from imbecility and moral depravity, and the impulse of disease. But we have no such confidence in the intelligence of judges or juries; the *vox populi* is not in this case the *vox Dei*. How long is it since a jury in Kentucky, contrary to the unanimous opinion of the ablest medical men in that State, brought in Dr. Baker guilty, although notoriously laboring under insanity, at the time the act for which he was executed, was committed? In the mind of the masses—the great body of the community—the idea of *crime* is always associated with those of injury and wrong, no matter what the state of mind of the individual may have been who committed the wrong. With respect to Freeman, it is certain that he was laboring under delusion, and a considerable degree of mental imbecility, or he could not have supposed that he was entitled to compensation for time spent in the State Prison. Moreover, he was wretchedly ignorant, deaf and stupid. There seems to have been no possible motive in killing the Van Nest family, as they were perfect strangers to the prisoner. Whether he actually labored under that degree of imbecility or moral mania, as to exempt him from responsibility, we can at present form no opinion.

Judge W. tells us that "the rule by which a man must be judged is, whether *he had knowledge of right and wrong*, in regard to the act for which he is on trial. If he had, he is responsible, and is neither an idiot nor an insane man. By that rule the prisoner has been tried and convicted." If so, then, we do not hesitate to say, that he was tried by a rule which is unsound, and cannot hold. It is a test of *knowledge*, not of *power;* and the knowledge of right, and the power to do it, are as distinct as science and art. An action presupposes knowledge, motive, and will. Suppose the motive be insane; and in the present case there seems an entire absence of all rational motive, and the will is incapable of obeying any but the insane impulse. The test laid down by Erskine in the trial of Hadfield, in 1800, was DELUSION. "Delusion," said this great advocate, "when there is no frenzy or raving madness, is the true character of insanity, and in order to render the madman irresponsible for crime, it must be shown that the act in question was the immediate unqualified offspring of the disease." The test of "right and wrong," however, was again brought forward on the trial of Bellingham, for shooting Mr. Percival (1812), and again in the case of Rex vs. Oxford, when Lord Lyndhurst told the jury to acquit, "if they were satisfied that the prisoner did not consider his act any crime against the laws of *God and nature*." The same principle was recognized by all the Judges, in the case of McNaughten, for shooting Mr. Drummond, and it has been acted on in several criminal trials in our own country;

as in the case of Rogers for the murder of Lincoln [Mass.]. In the case of Lawrence, for shooting at President Jackson (1835), delusion was laid down as the true test. *Sound memory and discretion* was the test in the case of Wilson, for murdering his wife in Maine, in 1836. The American Law Magazine (Jan., 1844) makes *a total permanent want of reason* the true test. The rule of Erskine, however, seems to us the more rational one, viz—*that there should be delusion, and that the act of homicide should be connected with the delusion.* As to the test of "right and wrong," it is enough to know that it is not a practical one, and it is insufficient for the purpose intended. As it cannot enable us to distinguish the insane homicide from the sane criminal, we believe it never has been, and never can be, safely and fairly applied. Who is able to solve this question, when applied, for example, to Freeman? We know he was laboring under some delusive notions; and how far his knowledge of *right and wrong* extended—whether we use these words in a legal, or moral and religious sense, no one, we presume, is able to tell. We do not say that we believe the verdict in this case wrong—we have formed no opinion on this point: we only allude to the case, as showing the difficulty of applying such a test. Every person conversant with insanity knows, that many insane persons have committed acts which they knew to be wrong, and of the criminality of which they were at the time perfectly conscious. They have been known to murder others, in order to receive the punishment of death at the hands of the law; and of course they knew that the act was contrary to law. We could give many cases in the annals of criminal legislation, where the criminal nature of the act was the sole motive for its perpetration. Hadfield, who shot at George the Third, and who was acquitted on the ground of insanity, knew he was doing an illegal act, and that the punishment of death was attached to the crime of assassination, but he did it that he might be put to death by others—he would not take his own life. Again: Martin, who fired the York Cathedral, knew that he was doing an illegal act; but then he said he had the command of God to do it. The fact is, that a man may possess a full consciousness of the illegality or wrongfulness of an act, and yet be fairly acquitted on the ground of insanity. Taylor, Guy, Ray, Brigham, Beck, and all our standard writers on medical jurisprudence, take this ground, we believe, and repudiate the test of "right and wrong"—a test which can never be carried out without inflicting the punishment of death on many insane persons: for a knowledge of the law, whether human or divine, does not imply the control of the *will.* The possession of conscience does not prove that instinctive impulses may not be too powerful to resist.

As Leuret has remarked, "the criminal has conscience, liberty, will. The monomaniac has conscience, without liberty. Thus, some will withdraw themselves, when they feel the disposition for committing injury. If this reasoning be correct, can such a person be held responsible for his actions, even if he knows what he is doing?"

In our edition of Guy's "Forensic Medicine," we have discussed this subject at some length, to which we may refer the reader. We have been inclined to believe, that the difficulties which complicate this subject might be in a measure removed, if our laws were so amended, as in cases of alleged or doubtful insanity, to substitute imprisonment for life, for the punishment of death, where the latter should be in-

flicted, provided the individual was sane, for as Mr. Guy very judiciously remarks, "the practical question is this; what amount of injustice are we willing to inflict on the individual, in order that society at large may be protected? If the public safety requires that the homicidal maniac should be put to death, let the principle be boldly proclaimed and acted on; but if, on the other hand, this seems too great a sacrifice, and too glaring an injustice, we must be content to confine him for life, to prevent the possibility of future mischief. This degree of injustice to the individual, a regard to the public safety will justify, nor is there any good reason to fear that, by exempting the madman from the punishment of death, we shall weaken the hold which the law has on the man of sound mind; for, in order that he may escape death, he must successfully feign insanity,—a task of no ordinary difficulty,—and if he succeed, a perpetual sacrifice of liberty awaits him. It is not likely, therefore, that society will suffer any injury from the adoption of the course here advocated; and we may, perhaps, find that it gains something by openly attributing to disease some of the most revolting crimes which degrade and debase our common nature." To such a result, we may add, science, philanthropy, and the spirit of the age, unquestionably tend.

Homœopathy.—We quote the following paragraph with great pleasure from the 2d No. of the American Journal of Homœopathy published in this city; Drs. Kirby and Snow, editors:—

"We cannot countenance the custom, which is growing in some sections of our country, of physicians advertising themselves in newspapers, and upon their signs, as '*Homœopathic Physicians.*' Such a course, we think, is uncalled for; and is an innovation of the wholesome rule in medical ethics of long-standing, which we hope will be strictly observed by those of our school. We look to the time when it will not be necessary to use the terms, homœopathy, or allopathy."

The following remarks from the Buffalo Med. Jour. are in point:—

"There are some unfortunate errors which have a popular currency, and especially prevail among those who regard the medical profession with distrust, which it behoves medical men to endeavor to correct. One of these errors is the idea that medicine is a system of doctrines and rules, which are handed down unchanged from instructor to pupil, like a religious creed, from which it is rank heresy to swerve. This is what is meant when such terms are used as 'old school,' 'regular system,' (allopathy), &c. Now it is quite needless to argue that this is a very false and unjust view of the case. Certainly there is no lack of freedom of opinion or latitude of doctrine in the medical profession. Every one is at liberty to construct his own articles of faith, and to shape his practice accordingly; and so far from there being any disposition to check this freedom, we all know that the tendency has always been directly the reverse. The public, however, do not always so understand it. It is not considered that medicine is a progressive science, but it is thought to consist of formulas which every member feels bound to sustain as permanent fixtures, never being willing to admit that they are not complete, nor sanctioning the least innovation. It is by fostering this mistaken impression that the advocates of absurd doctrines like homœopathy create an apparent issue with us, as if we were dogmatical adherents to antiquated and exclusive opinions, and they, persecuted

reformers. At the same time, these very doctrines, which claim to appropriate the position occupied by medical science, invariably assume to be unchangeably perfect, leaving no room for farther improvement—being emphatically obnoxious to precisely the objections which are unjustly charged upon medicine."

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New York Lyceum of Natural History.—In the No. of our journal for Jan., 1846, wenoticed the removal of the cabinet of natural history, belonging to this institution, to the building in Broadway, known as the Medical Department of the University of New York; we also stated that it was contemplated to resume the publication of its annals. Since then, three Nos. have appeared, the last two of which, in one, have just been issued. The contents are a description of a new species of anser (with a plate), by George N. Lawrence; and "A Descriptive Catalogue of the Geodephagous Coleoptera, inhabiting the United States, east of the Rocky Mountains. By John L. Le Conte." The paper of Dr. Le Conte is written in pure and elegant Latin, and when its publication is completed, will be by far the most complete and valuable monograph on the coleoptera, ever presented to the public. The author ranks deservedly among the first naturalists of our country. To collect the materials for the above paper, the author visited, in person, nearly every part of the United States, including the great chain of Northern Lakes, and the head waters of the Mississippi and Missouri. In another part of our journal, will be found a valuable communication from the same gentleman.

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Infusion of Honey Bees.—An infusion of the *apis mellifica* or honey-bee was recommended in the *Western Journal of Med. and Surg.*, for Nov., 1845, for the treatment of Strangury. It was directed to be prepared by sweeping from 40 to 60 bees into a pan of water, put the whole into a teacup, pour one gill of boiling water on them, and cover the cup securely. When it has stood 20 minutes, pour off the infusion, and let the patient take the whole at a draught. This remedy is said to relieve the worst cases of strangury, in from two to fifteen minutes. A writer in the last number of the *Am. Jour. of Med. Sciences* speaks highly of this remedy in such cases; and Dr. Flint, in the last number of the *Buffalo Journal*, states that the prescription was recently tried in that city with immediate relief, in a case in which the introduction of the catheter was attempted without success, and states "it was subsequently repeated daily, with the same results, until the occasion for its administration ceased." It has been found to succeed very generally at the South, where it was first introduced into practice, in cases of retention of urine from inflammation of the bladder, and from the effects of cantharides. It is supposed that the material which gives efficacy to the bee-tea, is the virus ejected by its sting, as the tea, when recently made, has a taste and smell identical with the odor of the incensed bee; and if allowed to stand, the infusion loses its characteristic odor and taste, and its efficacy is destroyed. It remains to be seen whether this virus may not be collected and preserved, so as to be employed where the bee itself is not to be obtained.

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Trees of America.—We are happy to announce, that the Messrs. Harper have just published a work on the Trees of America, Native and

Foreign; historically and botanically delineated, and scientifically and popularly described, by D. J. Browne, author of the Sylva Americana. We have had an opportunity of examining all of the printed sheets, and can promise that it will be a work of rare beauty and interest. It is accompanied by beautiful small wood-cuts of the different trees, and printed on the same paper as the great Pictorial Bible—forming altogether one of the handsomest volumes ever issued from the American press.

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Medical Schools.—We have received a very large number of circulars, announcing the approaching fall and winter session of Lectures, in our different Medical Schools from Maine to Louisiana. It has afforded us much gratification, to see from year to year in our Medical Institutions, such manifest signs of improvement in the mode of teaching, and in the facilities and appliances to make that teaching, in the highest degree, practically useful. The *didactic* has been gradually assuming more of the demonstrative form of teaching, and instead of reading long theoretical disquisitions, or attempting to display an inexhaustible fund of knowledge derived from books, the lecturer, at the present day, aims to give the pith and marrow of what is positively known on any subject, and indicate the sources whence further information may be gathered. Matters of antiquity, curiosity, and speculation, are reduced to their proper level, and held at their real value. Increased attention is constantly being paid to clinical instruction, practical anatomy, and general and special pathology, in all our schools of medicine; and the results are in the highest degree auspicious to the progress of our science.

With respect to the comparative advantages of different schools, it may truly be said that they all furnish important facilities for the acquisition of useful medical knowledge, such as, if properly improved, will qualify the student to become a useful and successful practitioner.

As "Excelsior" is the motto of our State, so also has it been adopted by our Medical Colleges, and the results of every year show that it has not been adopted in vain. We take pride in pointing to the medical schools of this State, as examples of what talent, enterprise, and honorable competition may accomplish in a noble cause, and as one of the signs that indicate their growing popularity, we may remark that among the 168 graduates at the last commencement of the University of Pennsylvania, not a single one hailed from the State of New York; a fact which, we believe, has never before occurred, since the establishment of that school of medicine.

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Obituary.—Died in this city, on the 13th of August, Hugh McLean, M. D., in the 69th year of his age.

The long and conspicuous medical career of Dr. McLean deserves at least a passing tribute. He was a native of the city of New York; was a private pupil of the late eminent John R. B. Rodgers; received his collegiate medical education under the Faculty of Physic of Columbia College, when that institution boasted of Bayley, Post, Hosack, Mitchell, and Rodgers, as its Professors. He entered upon the practice of the healing art before he had arrived at the age of 21 years, and dis-

charged its responsible trusts for a period of just fifty years. During the several visitations, in this city, of the malignant yellow fever, from 1798 to 1822, he adhered closely to his duties, and encountered the pestilence at all times, and under all circumstances, with a determined self-devotion to the interests of humanity. During the prevalence of the Asiatic Cholera, in this city, in 1832 and 1834, he was no less firmly at his post, and sedulous in the exercise of his duties. As a physician, Dr. McLean was eminently skilful in the diagnosis of disease, fertile in measures of relief, and prompt and efficient in the use of appropriate remedies. His professional integrity and courtesy towards his fellow-members was an example worthy of the imitation of all. In the liberal exercise of a lucrative art, without the hope or desire of pecuniary returns, he had scarcely an equal; his benevolence and humanity were of the widest extent, and were the natural characteristics of an enlightened mind, and a sympathizing heart. Few of the profession were more richly stored with medical reading; he was full in the history of the science; and to the refinements of a general student, he added a minute acquaintance with the results of professional knowledge, which modern investigation has so largely set forth. Nor was he indifferent to the acquisition of a cultivated taste in the fine arts; of music he was a dexterous performer on several instruments, and has composed several productions of much harmony and feeling. In his whole demeanor through life, he commanded that confidence, which decision of character universally inspires. His physical constitution was framed for great service; and during his long career, he seemed invulnerable to the causes of disease, and to the assaults of bodily suffering. His last severe sickness, which was indeed his first, arose primarily from an inflammation of the larynx, during the past spring. He sustained a tedious disorder with becoming fortitude and resignation. By his death, the profession has lost one of its most distinguished members, and society one of its brightest ornaments.—*Abridged from the Courier and Enquirer.*

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New York Society for the Relief of Widows and Orphans of Medical men.—Much attention is now paid to the important subject of Life Insurance. Within a very recent period, several offices have sprung into existence among us, and some have been brought from across the Atlantic, and holding out strong inducements for the citizen to insure himself for the benefit of his widow and children. It is a measure of prudent foresight, which should no more be unheeded by the physician than any other class of the community. Many of our most worthy compeers have sunk to the tomb, after toilsome lives, leaving families in destitution, and this is an event which must happen to most of the profession, and it may be to all.

A variety of plans are presented for our choice, by the several offices, each one having advantages peculiar to itself. That which offers the greatest number of advantages will of course do the largest business, but of all the systems now in vogue, we think that of the Society for the Relief of the Widows and Orphans of Medical men, decidedly the most advantageous, for the following reasons:

1st. The rate of premium in the common offices is very high in proportion to the age and condition of the person insured.

2d. The expenses incidental to an ordinary insurance office (salaries,

rent, printing, agencies, and many other things), necessarily increase the rates of premium, and in many instances, the stockholders' dividends absorb all the rest of the profits.

3d. If the insured dies, the sum for which he was insured is paid to the heirs, who invest it as they please, and perhaps badly, so as to yield but little interest, and it may be none at all. The office is not responsible for its safety after it is paid over.

The plan of the "Society for the Relief of Widows and Orphans of Medical men," is very different, and it would seem vastly better. In the first place, there are no salaries, rents, or agencies to pay, and very trifling expenses of any kind. In three years they have amounted to less than $200. 2d. There are no stockholders to absorb the profits in dividends. 3d. The funds of the Society are securely invested, and the heirs of the members receive their annual instalments from the *income of the Society*, without any trouble, anxiety or risk on their part. The rate of premium, too, is to be considered, and in this, the plan of the Society presents great advantages. A semi-annual payment of only *five dollars* is all that is required to enable the family of a member to participate after his death, in all the benefits, which are proportionate to the Society's funds. After a membership of twenty years, no more is required to be paid, or if one hundred dollars are paid at once, nothing further is required. In an ordinary life insurance office, the heavy premium must be paid punctually from year to year, or the insurance ceases, notwithstanding all that may have been paid in premiums.

These are the prominent differences between the two modes of securing some assistance to one's heirs, a subject which commends itself in the most earnest manner to the prudential benevolence of every member of the profession.

The New York Society is in a fair way of possessing a fund which will enable it to pay a reasonable sum to the widows or children of any of its members, who may perhaps be in need of assistance. The London Society, founded on similar principles at its commencement, had but seven members,—it has now an invested fund of £50,000, and is annually dispensing pecuniary relief to a considerable number of the families of its deceased members. Our Society commenced with, we believe, about thirty members, and now numbers about seventy, so that its prospects of good are rapidly augmenting. Every medical man in the city should join this society—the rich for the sake of those who are not, and others for the benefit of their families. No one would miss the small sum required for membership, while it would be amply repaid in the comfort of the assurance, that the family will always be provided for. Were all the five or six hundred members of the profession in New York to unite with this society, a fund would at once be established sufficient to assure to the heirs of all who might require it, a very comfortable and acceptable assistance,—a stated sum, which would be paid annually, without peradventure.

The secretary will furnish any member of the profession with a copy of the laws of the Society.

The following circular presents a condensed official view of the operations of the Society up to the commencement of the present year. Several names have been added since. J. H. G.

Sir:—

Agreeably to Sec. 21, Chap. v., of Laws of the New York Society for the Relief of Widows and Orphans of Medical men, I hand you the annexed statement of the present condition and prospects of the Society, and the names of those who have become members during the past year.

There are sixty-six members, of whom fourteen are life members by the payment of $100 at one time.

Five new members have been added during the past year: E. L. Beadle, William Wilson, Alfred S. Purdy, William Rockwell, John G. Adams.

The whole amount of funds since the organization of the Society, from subscribers and for interest, amounts to - - - - $3294 33

Paid for sundry expenses, printing, advertising, lights, &c. - - - - - -	$161 84	
Invested in bonds and mortgages - -	3200 00	
	3361 84	
Balance due the Treasurer - - -	67 51	
		$3294 33

Annexed is a list of the officers of the Society:

Edward Delafield, M. D., *President;* John Stearns, M. D., J. Revere, M D., Francis U. Johnston, M. D., *Vice Presidents;* Isaac Wood, M. D., *Treasurer;* H. D. Bulkley, M. D. *Secretary.*

The following are the managers of the Society:

James C. Bliss, William P. Buel, H. D. Bulkley, G. P. Cammann, Joel Foster, J. H. Griscom, A. N Gunn, R. K. Hoffman, A. T. Hunter, Jared Linsly, James Macdonald, J. B. McEwen, William W. Miner, Valentine Mott, Willard Parker, Alfred C. Post, J Kearney Rodgers, Hugh Sweeny, Peter Van Arsdale, J. A. Washington, James R. Wood.

H. D. BULKLEY, M. D.,
Secretary.

New York, Dec. 31, 1845.

Appointment.—The Savannah Republican announces the appointment of our able correspondent, Dr. John Le Conte, of that city, to the Chair of Natural Philosophy and Chemistry in the State University, at Athens. Dr. Le Conte is too well known to our readers to need any praise at our hands. We are happy to announce that he will still continue to enrich our pages with his able and interesting communications.

Preservation of Anatomical Subjects.—The *hyposulphate of soda* and the *chloride of zinc* have recently been employed with great success in preserving bodies for dissection. The first is a transparent inodorous fluid; its reaction is neutral, and it is obtained by passing sulphurous acid through a concentrated solution of carbonate of soda. One gallon of this liquid injected into one of the carotids, into the brachial, or popliteal arteries, completely arrests the progress of decay, and renders the subject fitter for injection of the vascular system. The *chloride of zinc* possesses even more powerful antiseptic properties than the hyposulphate of soda. It may be obtained by saturating muriatic acid with zinc filings. The external parts of the body are washed with this preparation; and by its use the most fœtid parts are instantly rendered inodorous by its contact. Parts which are in an advanced state of decomposition are instantaneously restored by it, and after a few moments recover their natural color.

Ligature of the Left Subclavian within the Scaleni Muscles.—The New Orleans Med. and Surg. Journal for May, 1846, states that the operation of tying the left subclavian artery within the scaleni muscles, has been performed *five* times by surgeons now living in that city. Four of the cases terminated fatally, and one recovered. The two last operations were performed by Dr. A. Mercier; one for traumatic aneurism of the axillary artery, in 1844; the other for true aneurism of the subclavian itself, in 1845, originating from carrying a basket on the shoulder. Dr. M.'s first case died on the 16th day, from secondary hemorrhage and pleuritis. This operation was performed below the clavicle. His second case was operated on above the clavicle; the *patient recovered perfectly*, and is now living in New Orleans in the enjoyment of good health.—*N. Orleans Med. Jour., May*, 1846.

A New Epidemic.

"Dr. Lee:

"Redwood, La., Aug. 1, 1846.

"Dear Sir,—Our country is at present remarkably healthy, and I very seldom hear of a case of disease. The whooping-cough has been the rounds of the parish. It has been very slight, unless accompanied with a complication either of the head, breast, or gastric department, and there have been but very few of either complication. I had several cases where there was evidently congestion of the lungs. The child seemed about to suffocate by closure of the glottis. Sometimes v. s. was resorted to with the happiest effect. This, followed by Hyd. Sub. and Hyosciamus in small doses owing to the age of the patient, generally effected a cure. I found great benefit accruing from the use of an emulsion of assafœtida.

"There is a singular disease which has prevailed here. It commenced with my young negroes, and many were affected, males and females; several plantations off had cases where they had no communication whatever. It broke out in several parts of this and the adjoining parish simultaneously, and seemed determined to run its course. Sometimes, during the most active treatment, and when we were almost on the point of believing the disease cured, it would break out with violence again, and perhaps die off and disappear for a time. The oldest practitioners say they never saw the disease before, and all pronounce it *epidemic.*—*Symptoms.* Generally a slight fever which lasts an hour or two; this disappears, in from eight to twenty hours; then there will be a discharge of pus from the vagina: the vulva, or nymphæ, is not affected. No sign of inflammation, or irritation; but the discharge is very profuse, and unaccompanied with any pain; sometimes streaks of blood will be found. The pus is similar to healthy discharges from abscesses, and of the same specific gravity.

"*Treatment.*—I have generally commenced by injections of tepid milk and water. Frequently when the discharge has seemed to diminish, I would resort to different vegetable astringents—and in fact, all the different mineral ones. They all seem to relieve for a time, but it is certain to return. I have known very few adult cases, it being generally confined to children of both sexes under ten years. When the male is affected, the inflammation seems to be seated behind the *prepuce* and around the *corona glandis* I have found a solution of 10 gr., of

nitrate of silver, to the ℥ of water, used often, has the best effect. Will you give me your views on the matter? We have had very little intermittent fever this year, and when we do, a dose of oil with quinine in 10 or 20 grain doses, administered by some intelligent overseer, generally effects a cure.

"Yours, respectfully,

"James S. Peacock."

Yellow Fever.—We have received the proof-sheets of an article on Yellow Fever, by Dr. Dowler, intended for the August No. of the New Orleans Med. and Surg. Journal, from which we extract the following. It would give us great pleasure to publish the entire article, but there is so great a pressure upon our pages in the present number that we are reluctantly obliged to quote but a small portion.—[*Ed. N. Y. Jour. Med.*]

"In denying, or rather doubting that yellow fever is produced by any emanation from the sick, or from marshes, nothing more is intended than that such emanation is unsupported by any evidence worthy of belief. Were a subterranean, a solar, a lunar, or a stellar theory substituted, it might be true, or not; the *onus probandi* belongs to the proposer of such doctrines.

"An alleged cause ought to be invariably followed by its effects: for example, if the doctrine of imported contagion be adopted, then the town of the Balize, at the mouth of the Mississippi, is the most exposed point on the globe, as the vessels supposed to be infected, are often detained there, for pilotage and towage, and from getting fast on the bar; adopt miasma as the cause, and yellow fever ought to be eternal, as this is, of all towns, the most exposed to marsh exhalation, and yet yellow fever is unknown to the residents."

Again, he remarks:—

"The assumption that yellow fever is the product of marsh poison is not only unsupported by its topographical affinities, but is irreconcileable to its modern appearance.

"To say nothing of the valley of the Mississippi, its delta alone, from Cape Girardeau to its mouth, forms, according to Mr. Forshey, 31,200 square miles, having a mean width of 418 miles, and a length of 600; the depth of the alluvion having a mean of 50 feet, required 13,684 years for its formation, by deposits from the river. During this long period it must have been excessively swampy. The condition in which De Soto found it, in 1539, was of course worse than at present; yet the yellow fever did not appear in New Orleans until a period very recent, when compared with the Northern States and the West Indies, which had been previously desolated by many epidemics, for nearly a century and a half before it visited swampy Louisiana. The valley of the Mississippi, not the little fens of Old England, nor the mill-ponds of New England, nor the Pontine marshes, or rather the Pontine pasture lands of the Eternal City, offers the best and the most extensive field for testing every possible malarial question which the most imaginative miasmatists had ever been able to conceive or propound since 1717, when Lancisci published his *De Noxiis Paludum Effluviis*. In the entire valley, an area of nearly the third of a million of square miles, since its discovery, the aggregate mortality from yellow fever to the present time, has not equalled the half of that during a single year in Old Spain, where it has amounted by the official reports to one hundred and twenty thousand, in places free from swamps, and even among mountains.

"The cause, which in one locality produces goître; in another, elephantiasis; in a third, Plica Polonica; in a fourth, the yaws; in a fifth,

leprosy; in the sixth, yellow fever—is quite unknown, though many pretended explanations have been given. As some places produce wheat, or bananas; live oaks, or cypresses; hanging moss, or palmettos; mosquitoes, or alligators,—so may yellow fever be produced, without our being able to show the cause of the one or the other class of effects.

"That the essential cause of yellow fever will ever be discovered, or being discovered, will be controlled, or prevented by human art, is altogether improbable. Its mysterious cycles culminate, decline, and reappear. Charleston, desolated at the close of the seventeenth century, was exempt in the first quarter, but a sufferer in the second quarter of the eighteenth—nearly half a century of exemption followed again—(a period much longer than that which now cheers the cities of New York, Philadelphia, Boston, and Baltimore) with hope that yellow fever had taken its leave of them for ever. But the last decennial period of the past century, and the first of the present, relumed the flames of the epidemic in Charleston, where they had smouldered so long, and in which they still continue to break out almost annually. Charleston suffered nearly a century in advance of New Orleans, and is still as great a sufferer as the latter.

"It is to be lamented that the topographical ameliorations which have been pushed forward with a celerity characteristic of N. Orleans, have not diminished or modified the yellow fever of the place, though, strange to say, this opinion is so unwelcome to all, and so humiliating to theorists, that it is constantly repudiated, while 'the long funerals which blackened' all the streets no less than five different seasons from 1837 to 1843 inclusive, are still but too fresh in the recollections of 100,000 people. As gloomy prognostications are as useless as unwarrantable, let us hope that New Orleans has entered upon a non-epidemic cycle, not only for half a century, as once happened to Charleston, but for ever. The yellow fever prophets and prophetesses have not hitherto been able to read the Sibylline leaves of its etiology, so that epidemics cannot be certainly known until after their occurrence."

With respect to the yellow fever on the island of Barbadoes, Dr. D. remarks as follows:—

"Barbadoes (thirteen degrees north of the equator) is twenty-one miles long, and one-third less in breadth, consisting of a soft, calcareous rock, rising from the bosom of the sea, by gentle acclivities, to the centre, where the elevation is nearly two thousand feet. It is covered with a vegetable mould. Lind, in his work on climate, says, that this island is 'free from trees, underwood, and *marshes*.' Wells afford good water, though there are no water-courses. The mercury ranges from 76° to 82°, rarely to 88°. Here stagnant air, one of the alleged causes of yellow fever, has no existence, as the sea breezes and trade winds 'operate unspent,' and with great force, augmenting sometimes to powerful hurricanes, which latter are often more destructive than yellow fever itself. In 1674, two hundred persons were killed by a hurricane; in 1780, by the official account, 4,326, and in 1831 about 3,000 more.

"Barbadoes was settled by the English in 1605, and was soon put in a high state of cultivation. In less than a century, it contained about 150,000 inhabitants, more than 500 to the square mile—a density exceeding that of nearly all other countries In 1786, the population had declined to less than 80,000—a result, perhaps, more attributable to the exhaustion of the soil, than to the ravages of the yellow fever: for this island, like most places to which yellow fever shows a marked geographical predilection, is, paradoxical as it may seem, extremely healthful, being little if at all subject to other forms of epidemic fever. Lind repeatedly calls it the most 'pleasant and healthful' of the West India Islands. Towards the close of the eighteenth century, an English traveller, Sir W. Young, thus describes it: 'The island is dotted with houses as thickly as on the

declivities in the neighborhood of London or Bristol, but with no woods; two or three straggling cocoas near each dwelling, were all the trees to be seen.'

"For two centuries, this island has been the hot-bed of yellow fever, which Dr. Ferguson, Inspector general of hospitals in the West Indies, declares to be of the very worst form. If the logic of contagionists is inconclusive, that of miasmatists is evidently erroneous. No one can deny, that temperature, humidity, and the like, greatly influence human health. It does not hence follow that the swamps of Louisiana emit any mystical miasma, which is the cause of the yellow fever: indeed the most swampy portions of the State are freest from this disease. When swamps cannot be found, as at Barbadoes, Vera Cruz, Havana, not to name scores of towns in Spain, including that dry mountain of rock, Gibraltar, still the advocates of this doctrine would have us to believe, in opposition to the evidence of our senses, that as the disease is present so is its assumed cause, marsh exhalation. This extensive subject can only be glanced at in this place. Bancroft attempts to account for the great epidemic of 1647, not by the agency of swamps, but by stating, that, as Barbadoes had been then settled but little more than twenty years, and 'that so little of it was at that time cleared and cultivated, that *dry* weather, assisted by great heat, was best suited to the production of noxious miasma; contrary to what has been the case at Barbadoes since it attained its highest state of cultivation many years ago.'—He totally forgets, that as the cultivation increased, so did the yellow fever for two centuries.

"It is worthy of observation, that intermittents are not found in this island. Dr. Gilpin, principal medical officer at Gibraltar, never knew of but one intermittent fever in that great fortress of yellow fever."

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Second Meeting of the Association of Medical Superintendents of American Institutions for the Insane.—The Association of Medical Superintendents of American Institutions for the Insane, held its second meeting at Coleman's Hotel, in the City of Washington on the 11th of May, 1846, the President, Samuel B. Woodward, M. D., in the chair, and Thomas S. Kirkbride, M. D., Secretary.

Present.

Dr. Samuel B. Woodward, of the Massachusetts State Lunatic Hospital at Worcester.
Dr. James Bates, of the Maine Insane Hospital, Augusta.
Dr. Andrew McFarland, of the New Hampshire State Hospital at Concord.
Dr. William H. Rockwell, of the Vermont State Hospital at Brattleborough.
Dr. Luther V. Bell, of the McLean Asylum for the Insane at Somerville, Mass.
Dr. C. H. Stedman, of the Boston Lunatic Asylum.
Dr. N. Cutler, of the Pepperell Asylum, Mass.
Dr. George Chandler, of the Massachusetts State Lunatic Hospital, at Worcester.
Dr. John S. Butler, of the Connecticut Retreat at Hartford.
Dr. Amariah Brigham, of the New York State Lunatic Asylum at Utica.
Dr. Pliny Earle, of the Bloomingdale Asylum, New York.
Dr. G. H. White, of the Hudson Lunatic Asylum, New York.
Dr. James Macdonald, of the Private Institution, Flushing, N. Y.
Dr. Thomas S. Kirkbride, of the Pennsylvania Hospital for the Insane, Philadelphia.

Drs. Stewart and Fenerden, of the Maryland Hospital.
Dr. I. P. Stokes, of the Mount Hope Asylum at Baltimore.
Dr. Wm. M. Awl, of the Ohio State Hospital, at Columbus.
Dr. John M. Galt, of the Eastern Asylum of Virginia, at Williamsburgh.
Dr. I. W. Parker, of the South Carolina Hospital, at Columbia.
Dr. Walter Tellfer, of the Lunatic Hospital, at Toronto, Canada.

Dr. Wm. M. Awl, of the Ohio State Hospital, was elected Vice-President of the Association, in the place of Dr. Samuel White, of Hudson, deceased.

Reports were received and read from various committees appointed at the last meeting of the Association :—

On the subject of the Moral Treatment of Insanity, by Dr. Amariah Brigham; on the Medical Treatment of Insanity, by Dr. Samuel B. Woodward; on Restraint and Restraining Apparatus, by Dr. Bell; on the Construction of Hospitals for the Insane, by Dr. Awl; on the Jurisprudence of Insanity, by Dr. Ray; on the Organization of Hospitals for the Insane, by Dr. Kirkbride; on the Statistics of Insanity, by Dr. Earle; on Asylums for Idiots and the Demented, by Dr. Brigham; on Chapels and Chaplains in Insane Hospitals, by Dr. Butler; on Post Mortem Examinations, by Dr. Kirkbride; on Asylums for Colored Persons, by Dr. Galt; on the proper provision for Insane Prisoners, by Dr. Brigham. An Essay on the Construction of Hospitals for the Insane was also read by Dr. Bell, and the subjects embraced in the Reports were minutely discussed by the Members of the Association.

The following preamble and resolutions were adopted :—

Whereas, Since the last meeting of this Association, Dr. Samuel White of New York, the venerable and highly respected late Vice-President of the Association, has died :—

Therefore,

Resolved, That by the death of Dr. White, this Association, and the Medical Profession, have lost an esteemed and valued member, and the cause of humanity a useful and active friend. Particularly have the friends of the insane reason to mourn his loss, as he had long been successfully engaged in relieving the sufferings of this afflicted class of his fellow beings, and, by his labors and his writings, essentially aided in improving their condition.

Resolved, That we deeply sympathize with the surviving members of his family, and recall, at the present time, the excellences of his character, his useful precepts, and the worthy example he presented of a Gentleman, Physician, and Christian, devoted to deeds of goodness, and whose long and active life was spent in promoting the welfare of his fellow-men.

Resolved, That Dr. Brigham be requested to prepare an obituary notice of the late Dr. White, to be entered upon the minutes of the Association, and to be published.

Resolved, That the Secretary of this Association present a copy of these resolutions to the nearest relative of the deceased.

The following resolutions were also adopted by the Association during its different sessions :

Resolved, That the resolution of the last meeting, relative to Members of the Association, be so amended as to read as follows :—That the

Medical Superintendents of the various incorporated, or other legally constituted Institutions for the Insane, now existing on this continent, or which may be commenced prior to the next meeting, and all those who have heretofore been Medical Superintendents and members of this Association, or who may be hereafter appointed to these stations, be, and they are hereby constituted Members of the Association.

Resolved, That in future, each regularly constituted Institution for the Insane on this continent, may have one representative in this Association;—that as heretofore, this shall be the Medical Superintendent, where such officer exists, but in those institutions in which there is a different organization, it may be either of the regular medical officers who may find it most convenient to attend.

Resolved, That the subjects, upon which committees were appointed at the first meeting of the Association, be continued, each in the hands of the Chairman of the respective Committees, to be reported upon at the next meeting.

Resolved, That in addition, each one of the following subjects be confided to a single Member of the Association, who is hereby requested to report at the next meeting of the Association:—

1. Treatment of Incurables. Dr. Macdonald.
2. Is there any relation between Phrenology and Insanity? Dr. Fenerden.
3. The Classification of Insanity. Dr. Earle.
4. The admission of visitors into the halls of the patients. Dr. Ray.
5. Visits to, and correspondence with patients by their friends. Dr. Stokes.
6. The comparative value of the different kinds of manual labor for patients, and the best means of employment in winter. Dr. Rockwell.
7. The proper number of patients for one institution. Dr. Brigham.
8. The utility of night attendants, and the propriety of not locking patients' doors, during the night. Dr. Chandler.
9. The advantages and disadvantages of cottages, for wealthy patients, adjacent to Hospitals for the Insane. Dr. Kirkbride.
10. The relative value of the different kinds of fuel for heating hospitals. Dr. Bates.
11. Insanity and the condition of the Insane in the British Provinces. Dr. Tellfer.
12. The nature and treatment of Insanity produced by the use of intoxicating liquors. Dr. Stedman.
13. The relations of Menstruation to Insanity. Dr. Fenerden.
14. Under what circumstances can the Insane of the poorer classes be properly treated with the greatest degree of economy. Dr. McFarland.
15. The effects upon the Insane of the use of Tobacco. Dr. Cutler.
16. Reading, recreation and amusement for the Insane. Dr. Galt.
17. On water closets in the wards and yards of Hospitals for the Insane. Dr. Bell.
18. On the construction and arrangement of Institutions for the Insane in Southern climates. Dr. Parker.

Resolved, That the members of this Association be urgently requested, with the concurrence of the friends of patients, to make post mortem examinations, in all cases of insanity which may prove fatal while under

their care, and to report the result of their observations at the next meeting of the Association.

Resolved, That each Member of this Association be requested to ascertain the facts and circumstances (such as sex, age, civil state, vocation, mode and other matters susceptible of being tabularized), of each case of suicide, occurring in his respective State, between the first day of January and the last day of December, 1847, and forward an abstract of the same as soon after the latter date as convenient, to the Chairman of the Committee on Suicide: it being understood that in States having more than one member, they be requested to divide their States by certain territorial limits.

Resolved, That it be recommended to the Officers of the different Institutions for the Insane in this country, to have engraved, previous to the next meeting of the Association, a view and ground plan of their respective establishments, and of a size that will permit their being bound with their Annual Reports.

Resolved, That a committee of three be appointed to publish, in a collected form, the Transactions of the Association, or, under certain circumstances, such parts of the same as they may deem expedient.

Resolved, That the essays presented to this Association are understood to be the opinions of the Chairmen of the different Committees by whom they have been reported, and do not necessarily express the sentiments of other members relative to their details.

Resolved, That in case the Committee do not publish any of the essays, their writers then have the privilege of publishing them in a separate form, should they deem it expedient to do so.

Resolved, That the Secretary be directed to publish an abstract of the Proceedings of the Association, in the American Journal of Insanity, the American Journal of the Medical Sciences, and the New York Journal of Medicine.

The Association continued its session till the evening of the 14th of May, and adjourned to meet in the city of New York on the 2d Monday of May, 1848, at 10 A. M.

By order of the Association,

THOMAS S. KIRKBRIDE, *Secretary.*

GEOLOGICAL MEETING.—The yearly meeting of the American Association of Geologists and Naturalists will be held in the City of New York, at Columbia College, on Wednesday, Sept. 2, at 11 A. M., and be continued for several days. Any evening sessions or addresses will be at the New York University. Persons interested in the progress of science are invited to attend.

JAMES TALLMADGE, *Ch'n Local Com.*

H. MEIGS,
C. M. WHEATLEY, } *Sec'es.*

New York, August 19, 1846.

Members of the Association are invited to register their names and address at the rooms of the American Institute, in the Park.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1 Anatomy.

Conclusions relative to the structure and functions of the placenta, by Mr. John Goodsir.—1.—The placenta, as has long been admitted, consists of a fœtal and a maternal portion intermixed. But the maternal portion, instead of consisting of a part of the vascular system of the mother only, includes the whole of the external cells of the villi.

2.—The external membrane of the placental villi is a portion of the vascular system of the mother, continuous with the rest of that wall, through the medium of the placental threads and lining membrane of the placental cavity.

3.—The system of the external cells of the placental villi belongs to the decidua, and is continuous with the parietal division through the medium of the cavities of the placental threads. This portion of the decidua has been named the central division of the placental decidua, and the threads decidual bars.

4.—The function of the external cell of placental villi is to separate from the blood of the mother the matter destined for the blood of the fœtus. They are, therefore, secreting cells, and are the remains of the secreting mucous membrane of the uterus.

5.—Immediately within the external cells of the placental villi, there is a membrane which I have named the internal membrane of the villi. This membrane belongs to the system of the fœtus, and is the external or bounding membrane of the chorion.

6.—Inclosed within the internal membrane of the placental villi, is a system of cells which belong to the system of the fœtus, and are the cells of the placental villus.

7.—The function of the internal cells of the placental villi is to absorb through the internal membrane the matter secreted by the agency of the external cells of the villi.

8.—The external cells of the placental villi perform, during intra-uterine existence, a function for which is substituted, in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane.

9.—The internal cells of the placental villi perform, during intra-uterine existence, a function for which is substituted in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane.

10.—The placenta, therefore, not only performs, as has been always admitted, the function of a lung, but also the function of an intestinal tube. —*Anatomical and Pathological Observations.*

Royal Academy of Sciences of Paris. March 23.—*On Digestion and Nutrition in Herbivorous and Carnivorous Animals.* By M. Bernard, of Villefranc.

The chief difference between herbivorous and carnivorous animals, as regards the functions of digestion and assimilation, relate to the chyme, the chyle, and the urine.

In a great number of dogs fed exclusively on raw or boiled meat and killed during digestion, M. Bernard always found—1st. *Acid* chyme in the small intestine. 2d. *Opaque, milky, homogeneous* chyle. 3d. *Transparent, amber acid* urine.

In rabbits fed exclusively with vegetables, M. Bernard always found—1st. Alkaline chyme in the small intestine. 2d. Transparent lymphy chyle, presenting scarcely a trace of opalescence in the thoracic duct. 3d. Urine *turbid, whitish,* and very *alkaline.*

The foregoing differences in the chyme, the chyle, and the urine of herbivorous and carnivorous animals, do not depend on any difference in the organization of those animals. To prove this, M. Bernard kept two dogs and two rabbits, whose urine respectively presented the characters above stated, without food for thirty-six or thirty-eight hours, after which period the marked difference between their urine disappeared, being in all *amber-colored, limpid,* and decidedly *acid.* This experiment, which was frequently repeated, and uniformly with the same result, proves that the urine of carnivorous and herbivorous animals possesses the same reaction and appearance when the influence of diet is excluded.

There is a constant relation between the nature of the chyme, the chyle, and the reaction of the urine. Physiology may derive important indications from this fact. If a solution of cane sugar is slowly injected into the veins of one animal, and a solution of grape sugar into the veins of another, it will be found that after a very short time the urine of the latter has become turbid and alkaline, while the urine of the former remains unaltered in appearance and reaction.

When the eighth pair of nerves are divided in an animal during digestion, digestion is arrested, and the urine in a few instants resumes the characters it possessed while the animal was fasting, becoming clear and acid. When those nerves are divided before digestion commences, the process is completely arrested.

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On the Assimilation of Amylaceous and Saccharine Substances.—M. Payen read the report of a commission composed of MM. Magendie, Flourens, Milne Edwards, and the reporter, on a memoir on the above subject by M. Mialhe.

M. Mialhe, referring to the views now generally adopted respecting the disaggregation of azotised substances in the digestive organs, concludes that their liquefaction is effected by the concurrent influence of an acid and of pepsine—a reaction which may be compared to that of diastase on starch. We can also conceive how fatty substances, under the influence of bile or some special substance which they contain, become miscible in water and assimilable. But we cannot satisfactorily explain the reactions whereby amylaceous and saccharine substances become alimentary. It is this point which M. Mialhe seeks to elucidate.

Previous to examining M. Mialhe's results on this point, the reporter passed in review the history of the question, citing the facts ascertained by Spallanzani, Tiedemann and Gmelin, De Leuch, Sebastian, Schwan, &c., showing that the fact of the solution and saccharification of starch by saliva has been well ascertained, though the special agent whereby the changes are effected has not been discovered.

M. Mialhe's numerous researches have elucidated the question, by clearing up several doubtful points respecting the reactions of human saliva; by discovering in human saliva the active principle of the transformation of amylaceous substances; and finally, by demonstrating that this principle has the greatest analogy to, if it is not identical with, diastase.

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On the Quantity of Carbonic Acid Gas exhaled by Man in Health and Disease.—"1. The relative and absolute quantity of carbonic acid varies

in different individuals, and in the same individual under different conditions.

"2. In both sexes the absolute quantity is governed according to the age (Scharling, Andral, and Gavarret).

"3. A greater absolute amount is exhaled by the male than by the female (Scharling), at every period of life, from the age of eight years to old age; but the difference is peculiarly obvious between the ages of sixteen and forty, when the male usually exhales nearly double the quantity exhaled by the female (Andral and Gavarret).

"4. In the male, the absolute quantity increases from the age of eight years to that of thirty, and undergoes a sudden increase at the time of puberty; from the age of thirty the quantity diminishes, and this in proportion to the advance of age (Andral and Gavarret).

"5. In the female, also, the quantity increases up to the time of puberty, but, as soon as menstruation is established, the quantity remains unchanged; whilst, on its cessation, the quantity undergoes a distinct increase, and then diminishes with the advance of age. During pregnancy the absolute amount rises to the standard of the non-menstruating female (Andral and Gavarret).

"6. In either sex the absolute quantity has a simple relation to the vigor of the bodily constitution and to the evolution of the muscular system (Andral and Gavarret).

"7. In proportion to the weight of the body the infant exhales the largest absolute quantity, and the youth more than the middle-aged man. After the age of forty the quantity decreases, and the female seems to exhale a considerable amount in proportion to the weight of her body (Scharling, Andral, and Gavarret).

"8. The relative and absolute quantity increases shortly after food has been taken, and whilst digestion is going on; it is greater in the state of satiety than in that of fasting (Prout, Valentin and Brunner, Lavoisier and Seguin, Scharling, Vierordt). Imperfect digestion diminishes the absolute quantity (Lavoisier and Seguin, Scharling). After the use of alcohol in any form and quantity, especially when the stomach is empty, and even after the use of strong tea, the relative and absolute quantity becomes less (Prout, Vierordt).

"9. A moderate amount of muscular movement increases the relative and absolute amount of carbonic acid exhaled (Prout, Scharling, Vierordt).

"10. Depressing passions of the mind diminish the relative quantity (Prout).

"11. Frequent and deep respiratory movements augment the absolute quantity of carbonic acid exhaled (Allen and Pepys, Andral and Gavarret, Vierordt), but they diminish the relative amount (Vierordt). The frequency of the pulse seems to be of no consequence.

"12. The relative quantity is increased by the repeated inspiration of the same air, whilst the absolute is diminished (Allen and Pepys, Scharling, Vierordt). The absolute quantity seems to be increased by the respiration of pure oxygen (Allen and Pepys, Nyster). When the respiratory movements are impeded, or are altogether brought to a close, the relative quantity of carbonic acid contained in the air of the lungs is increased (Vierordt).

"13. By night, and during sleep, the absolute and relative quantity is less than during the day, and in the waking state (Prout, Scharling); the relative quantity is less in the morning than in the evening (Brande); but, before noon, the relative absolute quantity is greater than in the evening (Prout, Vierordt).

"14. The absolute quantity is greater in winter (Lavoisier and Seguin); the relative is increased by electricity and low barometer pressure (Prout, Vierordt); but the absolute is diminished by greater rarity of the air (Vierordt).

"15. An increase of temperature diminishes both the relative and absolute quantity (Vierordt).

"16. The transpiration of carbonic acid through the skin is small in amount; the greatest activity in this function being in a vigorous adult male (Scharling)." —(*Brit. & For. Med. Rev., July*, 1846.)

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

Treatment of Lead Colic.—During the three years that I was with M. Gendrin, I saw a vast number of cases of lead colic; we had, indeed, nearly always two or three men thus affected in our wards, sent from the carbonate of lead manufactory at Clichy. All of these cases were treated with sulphuric acid, and I do not recollect having seen one in which the disease proved refractory to the treatment adopted,—a case or two of confirmed chronic paralysis excepted. The duration of the treatment, as far as I can collect from my notes, was about three days in slight cases, and six or seven in severe ones. The sulphuric acid was given, largely diluted with water (forty-four drops to a pint of water); two or three pints being administered in the twenty-four hours. The amount of pure strong acid taken in that time was, therefore, from one drachm and a half to two drachms. Sometimes the sulphuric lemonade, as it was familiarly called, was vomited as soon as ingested. Still when this was the case, the patient was made to persevere in its use, and the stomach soon became accustomed to the acid, and retained it. When it was retained, the abdominal pains generally began to diminish after the first, second, or third day, the constipation soon giving way naturally, after they had become less intense. In all these instances, not a grain of any kind of medicine was given besides the sulphuric acid, nor was an enema used, the sulphuric acid being the only medicinal agent resorted to, if we except baths.

At the commencement of the treatment, a sulphur bath was given to the patient, the result of which was, that the sulphur, combining with the particles of lead that were on the skin, formed a black sulphuret. The amount of lead, which is thus discovered to encrust, as it were, the skin of those who have worked at preparations of lead, is nearly incredible. I have often seen men go into the sulphur bath quite white, and come out nearly as black as negroes. The lead lying on the skin having been thus made visible to the naked eye, the patients were supplied with a harsh brush and half a pound of soft soap, and made to scrub themselves daily in a warm bath, until all the black sulphuret had been brushed off. The sulphur bath was then repeated, the sulphuret of lead brought out, brushed off and the process renewed, until it no longer rendered visible any trace of lead.

This precaution is indispensable with all who labor under saturnine disease, if we wish to ensure patients against relapse. Whilst at the hospitals of La Pitié and Saint Louis, I have repeatedly had patients under my care with lead colic, who had been discharged as cured from other hospitals a few weeks previously. The sulphur bath, which exhibited a thick coating of lead on the skin, explained at once the cause of the relapse. Indeed, the presence of this coating of lead on the surface of the body is, no doubt, the principal cause of the relapses which are mentioned by authors as occurring so often in these diseases. The lead which thus lies on the surface is gradually absorbed, and, at last, poisoning having again taken place, all the symptoms to which it gives rise are manifested. No patient who has suffered, and been treated for lead colic, can be considered safe unless he has gone through the ordeal of a sulphur bath, with a perfectly white skin, One of the great advantages of repeating the sulphur bath during the treatment is, that the patients, whom it is easy to convince of the importance of getting rid of the metallic poison, when they see it plainly on their bodies, rub with real good will.

The mode in which the acid acts in neutralizing the poisonous effects of the lead is easy to explain. It combines, no doubt, with the lead in the tissues, and forms with it an insoluble sulphate or sulphuret, which is consequently inert, and is gradually eliminated from the economy. This is the interpretation adopted by M. Gendrin, and it appears rational enough.—[Mr. Bennett in *London Lancet.*]

Frequency of Intestinal Worms in China.—There is great disposition to the formation of intestinal worms, almost exclusively lumbrici, here (Hong-Kong), as well as at Chusan, which are sometimes generated in extraordinary numbers, being occasionally voided by the mouth, but more commonly by the anus, and giving no symptoms of their existence till they are discharged: they are found in masses, on post mortem examinations, after fever and flux; the former, as frequently as the latter, when protracted. Their extensive production has been ascribed, erroneously it is believed, at Chusan, to the water found there, containing, as it sometimes does, portions of earthy and vegetable matter; for they are as numerous at Hong-Kong, where the water is singularly clear, and free from admixture of any kind, except small quantities of mineral substances, which it holds in perfect solution, and which cannot be supposed conducive to such effects. There is little apparent difficulty in accounting for the abundance of these parasites in China; it can scarcely be questioned, that the excessive tendency to, and occasional accumulation of them, arises out of the enfeebled, unhealthy condition of the alimentary apparatus, more particularly of the interior membrane; being infested by depraved secretions, and coated with adhesive mucus, it ceases to perform its proper functions adequately; and from the same cause, becomes the prolific bed of those creatures. Neither their origin in the intestines, mode of production, nor introduction, is of any practical importance; it is probable that their ova or elementary germs are extensively diffused, and constantly carried into the stomach with dietetic substances: it is certain that their existence is incompatible with a sound state of the living parts, in which they are developed; and that what is required for their prevention is vigorous healthy action in the parts.—*Wilson.*

Treatment of Diabetes.—The treatment from which I have derived the most decided benefit, has been that addressed to the digestive system, and consisting in the employment of alteratives, sudorifics, chalk, iron, and occasional aperients. In most cases calomel is to be preferred to any other mercurial, and may be advantageously combined, either with tartrate of antimony, or Dover's powder; where there appears to be much gastric irritability, of which the tongue affords a tolerably certain indication, even independent of those sensations which more unequivocally denote such state, the Dover's powder has the best effect; and if the tartrate of antimony be used, it should be given in combination with either opium, or the hydrochlorate of morphia, either of these combinations affording at the same time the best chance of acting on the skin. In this disease, however, diaphoretic medicines seem to have but little power, and should, therefore, where it can be procured, be assisted by the warm bath, which may, provided there be not great debility present, be employed on alternate days. Whilst the red state of the tongue continues, I have given the chalk in full doses with very decided benefit, generally alone, but sometimes in conjunction with the Dover's powder. So soon as the irritability of the stomach has been somewhat diminished, the sulphate of iron, with or without quinine, has been used, and great improvement has been the result; another very useful formula is the citrate of iron with quinine in solution, or a simple bitter, as the quassia. For common drink, where, as is generally the case, the thirst is urgent, one part of lime water with two or three of milk, both allays this distressing symp-

tom, and also acts beneficially on the lining membrane of the stomach. As to the diet of diabetic patients, it is unnecessary to dilate upon it; it should be chiefly composed of animal food, as beef and mutton, in the form of chop or steak, with as little bread or vegetable as possible, and where the state of the stomach does not forbid it, wine or malt liquor may be allowed. By some the latter is objected to, but so far as my experience extends, they have never done any harm, and I think have proved useful. In all of the cases which I have seen within the last few years, the iodide of potassium was tried, but from its having been combined with one or other of the preparations of iron, I do not feel justified in offering any opinion of its actual value, as equally decided good has followed the use of iron alone. From all that I have seen, I do not conceive that bread, when taken in small quantity, produces the bad effects attributed to it by many; at the same time the most manifest injury arises both from it and vegetables when taken in the ordinary manner.—(Geo. Fife *in Prov. Med. and Surg. Jour.*, 1846.)

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MIDWIFERY.

1. *Conception occurring after inversion of the Uterus.*—Dewees says, at p. 512 of his System of Midwifery, that "we may justly entertain doubts" of the uterus having been reinstated after complete inversion. A very complete inversion of the womb is not, if it be early reposited, to be considered as obviating the liability of the patient to a subsequent conception. This I can clearly aver, upon the facts of the case published by me in the Phil. Pract. of Mid., 2d Edit., p. 356, where the case, as seen by the late Dr. James, by Dr. G. Fox, and by myself, is given at large. In that case the inversion was produced by violent and most painful tractions at the cord by an ignorant midwife, who supposed, after she had drawn the womb entirely forth of the patient's body, that the huge mass consisted of some unnatural state of the placenta, which, in fact, was adherent to it. The midwife, even after the womb was withdrawn and hanging between the thighs of the woman, made violent efforts to pull it away from her, and only desisted in consequence of her screams, and the apparent approach of death.

"I reposited this womb, not by compressing the organ between my hands, as it is usually directed to be done, but by waiting until the contraction or after-pains had ceased, and then indenting the fundus with a finger, like the bottom of a bottle, and suddenly pushing the cone upwards to the os uteri, and so into the belly again. This patient was as nearly dead from hemorrhage as any woman I have seen recover from flooding. Upon the re-establishment of her health she bore children, and in two instances was delivered by my friend and colleague, Professor F. Bache. I mention these circumstances in order to show that the extremest degree of inversion—none could be more complete—is not necessarily the cause of lesions in the ovaries, tubes, and other organs connected with reproduction, so great as to deprive them ever afterwards of the reproductive power. Dr. Meigs relates another case in which he and other medical men examined a woman who had been the subject of an inversion of the womb for two years. They all agreed that the case was one of inversion, and the attempts made by himself and them, to reposit the organ, were without success. Nevertheless, some four years after this, she became pregnant, and miscarried of an embryo of more than three months, under the care of Dr. Warrington, who received the embryo."—*Dr. Meigs.*—(*Lond. Med. Gazette.*)

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2. *Twins:—Uterine Inertia with the second child.*—November 25th, 1844.—Nancy Cook, 15, Simpson's Buildings, Adelphi, Salford, aged 39, was in labor of twins. The first child, which was a boy, and presented with the head, was born alive four hours and a half after the beginning of labor;

it was small, as the mother was only at the seventh month of pregnancy. For an hour after its birth there were no labor-pains, but at the end of that time they came on, though they were extremely feeble and infrequent. I was sent for by the midwife of the Lying-in Hospital, who was in attendance, and saw her about four hours and a half after the birth of the first child. The woman was in a good state; the membranes of the second child were unruptured; the pains were so feeble as to have little or no effect on the amniotic sac, and there was an interval of from twenty minutes to half an hour between each pain. I considered it a good opportunity to ascertain the value of Dr. Radford's galvanic plan in renewing uterine action, so I made the necessary arrangements. In about an hour, Dr. Radford and myself, in the presence of my friend, Mr. Nursaw, and my pupil, Mr. William Black, proceeded to apply the remedy. The effect was immediate; strong labor-pains coming on, and continuing whilst the galvanic circle was complete. The woman cried out that she had pain similar to what she supposed might be produced by "forks being thrust into her belly." On examining per vaginam, the membranes were found to be tense and protruding into the passage, and the os uteri was fully dilated. After the galvanic circle was broken, and the intervallic contraction thereby induced had gone off, it was remarkable to observe that so great a degree of tonic uterine action existed, that the amniotic bag could no longer collapse, but remained tense in the vagina, as it does at the height of a pain in normal labor. In the course of about half an hour the intervallic uterine action was so completely excited that we ceased to apply the galvanism; and during a pain, Dr. Radford ruptured the membranes, when the foot was found presenting. I now took charge of the case, and in about a quarter of an hour, with the assistance of slight traction, a very small female child was born alive. We applied a few slight galvanic shocks to its chest, as the respiration was feeble, with a very good effect. The placenta, which was single, came away in about twenty minutes, with less discharge than is usual in twin cases.

The mother recovered well and rapidly; but the second child, which was extremely puny at birth, died of convulsions in four or five days.—*Lond. Med. Gaz.*

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3. *Induction of Premature Labor by Galvanism.*—Jane Ward, aged 23, was pregnant of her second child. In a previous labor, owing to contraction of the outlet of the pelvis, I delivered her by means of the perforator and crotchet, in consultation with my colleague, Mr. Gollard. The diminution in the transverse diameter of the outlet of the pelvis being only about from half to three-quarters of an inch, I allowed her to go on to the eighth month. Dr. Radford, Mr. Stephens, and myself, had then a consultation upon her case, and it was agreed that I should endeavor to induce premature labor by means of a sponge tent introduced into the os uteri, and if this failed, by means of galvanism. Accordingly, in the presence of the above-named gentlemen, on the 28th of March, 1845, I introduced a sponge tent; but as it did not expand, owing to its being badly made, I withdrew it on the 31st, no effect having been produced.

On the 1st of April, 1845, in the presence of Dr. Radford, Messrs. Hunt, Stephens, Runcorn, and my pupil, Mr. W. Black, I applied the galvanism for about twenty minutes, with occasional intermissions. The uterus hardened under the application, and she felt labor-pain, but this lasted only whilst the galvanic currents and shocks were given.

In about eight hours and a half after the use of this agent, the membrane ruptured, little or no dilation of the os uteri having occurred.

April 3d.—About forty-eight hours after the application of the galvanism I made a vaginal examination, but there was no dilatation of the os uteri. On making an abdominal exploration I discovered the head of the child at the fundus uteri. In about three hours after I saw her, labor

came on, and the child presented with the breech. The case went on well so far as regards the action of the uterus, but the child was born dead after a labor of about nine hours' duration. Mrs. Mills, an experienced midwife, who had charge of the case, informed me that she examined the funis as it came within reach, but she could detect no pulsation in it. I examined the infant, and found the face purple from congestion, and the nates and scrotum much ecchymosed. The placenta came away in an hour after the birth of the child.

The woman suffered from a severe attack of menorrhagia about twelve days after the birth of the child, which yielded to ordinary treatment and the use of the plug. * * *

Of course, after so few trials as have been made with galvanism in the practice of midwifery, it is very difficult to form an opinion as to its exact value, and the particular cases in which it is likely to supersede means that have been previously adopted. That it is a powerful remedy there can be no doubt in the minds of those who have seen it tried, and that the uterus will respond to its application, whilst the general system is completely prostrated, is equally certain. This latter circumstance is one of its peculiar merits, as I believe that there is no other means by which we excite uterine contraction that is not liable to fail when severe hemorrhage has weakened the vital powers. But the pain and disagreeable sensations produced by the galvanic shocks and currents when passed through the uterus are such as one would not wish to subject a patient to unnecessarily, and this is one of its disadvantages. For this reason I think that we are bound to try other means before having recourse to it, excepting such circumstances exist as render it hazardous to the mother or child to lose any time. Thus, supposing we have a case of uterine inertia, we should try frictions, pressure and cold to the abdomen, rupturing the membranes if justifiable, and even the ergot in most cases, before having recourse to galvanism. But if we should have uterine inertia, complicated with funis presentation, the funis pulsating well, and the passage in a favorable state, a case by no means uncommon, we should lose no time in applying galvanism, inasmuch as the only chance for the child consists in a rapid delivery, which, indeed, might still require the forceps for its accomplishment. I believe it to be a perfectly safe remedy, since I have never seen anything to lead me to suppose that either the mother or child has suffered from its use.

From the little I have seen my opinion is that it is a most valuable means in that class of cases for which Dr. Radford first recommended it, viz., uterine hemorrhage before, during, and after labor, in the latter months of pregnancy; and it must always be remembered that its application need not, in any way, lead us to neglect the ordinary methods of treating these cases, if there is any reason for giving them a previous trial. Of course from this statement must be excepted the old plan of delivering the child where great exhaustion of the mother is present, to supersede which practice, galvanism was specially brought forward.—*Thomas Dorring, Esq*—(*Lond. Med. Gaz.*)

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4. *On the Action of Galvanism on the Uterus, during Labor.* By Professor Simpson.—The *general results* obtained from the employment of galvanism, in the eight cases which I have detailed, may be summarily stated as follows:

In one instance (Case 2), the pains were more frequent in their recurrence, but shorter in their duration during the application of the galvanism. In five other cases (Cases 1, 3, 4, 6, and 7), the employment of the galvanism neither increased the average frequency of the pains, nor their average duration. In one (Case 5), the pains ceased whilst the galvanism was applied, and returned upon its removal. In the instance which I have last detailed (Case 8), the uterine action ceased while the galvanism was applied, and did not return upon the withdrawal of the

galvanic action, nor for 24 hours subsequently. There was no reason whatever at the time to expect this as a probable occurrence, independently of the galvanism. But even admitting, for the sake of argument, that the cessation of the uterine action was not the result of the galvanic influence used, still the fact is amply sufficient to show that the galvanic current had not, at least, the power either of increasing the pains, or even of continuing and maintaining them when they offered to fail. It may be proper to add, that during the galvanic action, in none of the experiments did Dr. Barry or I find, in the intervals between the *clonic* uterine contractions or pains, any evidence whatever of unusual *tonic* contraction of the uterus, as shown either by any degree of hardness in the general uterine tumor, or by any degree of tension in the pressure of the bag of membranes or the child's head against the cervix uteri.

It would be hasty and logically incorrect to deduce from the preceding observations, that under no modification, and under no manner of application does galvanism possess the power of directly exciting or increasing the contractile action of the uterus. Forms or methods of employing it may yet possibly be detected or devised, affording a different result. But I believe I am justified in inferring from the preceding inquiry, that as employed at the present time, and in its present mode, it is not a means which can be in any degree relied upon for the purpose in question; and is so far practically and entirely useless as a stimulant to the parturient action of the uterus.—*Ed. Monthly Jour. Med. Science.*

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5. *On Floodings.*—1. "Floodings rarely occur after natural delivery, to any extent, if properly guarded against. 2. They happen most frequently after instrumental and manual deliveries, and after deliveries rendered precipitate by the violence of the expulsive action, *in all of which cases they proceed from lacerations of the soft parts*, sustained during the passage of the child. 3. Those which occur after labors rendered tedious by the abnormal size of the child, may proceed either from laceration or sloughing of the parts. Some rare cases are on record, in which the blood would seem to have escaped by gravity from the uterine vessels, owing to the mother having been raised into an erect posture while in a debilitated state.* 4. Floodings which take place a few hours after delivery, are owing to wounded vessels which have acquired increased activity after the depression occasioned by the shock of delivery has gone off. 5. Those which take place some days after delivery are connected with sloughing of the parts, which may either have been injured in the act of delivery, or become tainted by the presence of a putrid portion of the placenta." The phenomena of floodings being thus shown to be identical with those of hemorrhages from wounded arteries, the same plan of treatment is clearly identical in both cases. Floodings, then, are to be treated by exposure to cool air, by cold applications to the parts, or, if need be, by cooling injections into the uterus and vagina; by elevated position of the pelvis, and moderate doses of opium. If arterial blood flow rapidly and continuously, an examination should be made, and if a wounded artery is detected, it should be secured by the usual surgical means.†—*London Medical Gazette.*

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MATERIA MEDICA.

New Mode of Administering the Sulphate of Quinine.—A memoir on the use of sulphate of quinine in intermittent fever, by friction on the mucous surface of the mouth and fauces, has been addressed to the Academie des Sciences, Paris, by M. Ducros. The following are the conclusions at which he has arrived:—

* How can this be, unless there are uterine vessels communicating with the placenta?

† Medical Gazette, vol. xxxvii., p. 150.

1. The sulphate of quinine administered in sulphuric ether, by frictions on the tongue, the velum pendulum, the inside of the cheeks, and back of the pharynx, causes an abundant salivation with a strongly marked bitter taste, in the dose of five centigrammes.* The reaction on the spinal marrow excited by this dose is stronger than would have been produced by two grammes† taken into the stomach or intestinal canal.

2. The action of sulphate of quinine, administered in this manner, is almost instantaneous, whether employed in malignant intermittents, in simple agues, or in temporo-facial neuralgia.

3. This immediate therapeutic action is especially important in malignant intermittent, since given in other methods the sulphate of quinine requires to be taken several hours before the paroxysm, while by this method it is sufficient if it be administered half an hour before the access.

4. A still greater advantage of thus employing the quinine in small doses, is the avoiding of all risk of poisoning by the remedy.

5. The rapidity of this action of the quinine in temporo-facial neuralgia is also a most important advantage.

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Physiological Effects of Sulphuric Ether administered by Friction on the Mouth and Fauces.—A memoir on this subject has been addressed to the Academie des Sciences by the same author. The following are his conclusions :—

1. Sulphuric ether, employed in frictions on the mouth and fauces, causes, in gallinaceous animals, instantaneous sleep, characterized by closing of the eyes, and setting up (*hissement*) of the feathers.

2. If morphia, acetate of morphia, or extract of opium, be given during this sleep, the sleep, instead of being augmented, is instantly destroyed ; —whence M. Ducros concludes that, in the gallinaceæ, opiates are the antidotes to sulphuric ether.

3. If ether be given in poisoning by opium, the symptoms of poisoning are increased.

4. The soporiferous effects of ether thus administered to fowls, are also manifested in other animals and in man.

5. In cases of hypochondriasis attended with want of sleep, with wandering pains in the chest and abdomen, sulphuric ether employed in frictions on the tongue, velum pendulum, tonsils, and back of the pharynx, procures an agreeable sleep and calms the pains, and especially possesses these advantages in the midst of nervous excitement, when narcotics only tend to augment the general irritability.

6. In the convulsions of pregnant or child-bearing women, in the convulsions of the new-born, in hysterical attacks, in epileptiform paroxysms complicated with trismus (setting of the teeth,) and spasm of the œsophagus, where swallowing is impracticable, if the cavity of the mouth and pharynx be rubbed by means of a camel's-hair pencil dipped in sulphuric ether, the nervous attacks which, by long duration, might prove fatal, may generally be arrested.—*Provincial Med. & Surg. Jour., May 6th*, 1846.

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New Formulæ.—The following formulæ not generally in use in this country, are taken from a recent French work, *Traitè de Matière Medicale*, by Dr. Foy (Paris, 1843, 2 vols. 8vo. pp. 628, 714) :—

Ammoniacal Beer.—Take of muriate of ammonia, ʒ iiss ; table beer, ʒ xvi : mix. To be administered in doses of a wine-glass full—in scrofula, typhoid fevers, diabetes, abscesses.

Purgative Biscuits.—Take of jalap, ʒ v : sugar ʒ xxx ; flour ʒ iv ; make into 15 biscuits, one to be taken in the morning for a dose.

Bolus of Arnica.—Take of Arnica flowers, camphor and treacle, of each,

* About three quarters of a grain. † Half a drachm.

grs. viii; divide into two boluses, to be taken daily in paralysis, catarrhal and adynamic fevers, diarrhœa.

Collyrium of Cadmium. Take of sulphate of cadmium, ghriss; rose water, ℥iv; liquid laudanum, ♏xv; mix: useful in chronic ophthalmia, ulcerations of the cornea, conjunctivitis, retinitis.

Electuary of Tannin.—Take of tannin, grs. x; conserve of roses, ʒ ij; liquid laudanum, ♏vij.: mix. To be taken in three doses daily, in obstinate chronic diarrhœa, in hemorrhages, in rachitis.

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Preparation of Tincture of Aconite.—Take of the root of the aconitum napellus, well dried and pounded, sixteen ounces troy, rectified spirits sixteen fluid ounces; macerate four days, strain and add spirit till twenty-four ounces are obtained.

This tincture is beautifully transparent, and of a slightly bitter taste. Dose as an *anodyne, antineuralgic* and *calmative*, ♏v. three times a day, increased daily, by ♏j. per dose. As an *antiphlogistic* ♏v. repeated four hours after the first dose. In order to sustain the sedative effects thus induced ♏iiss. are to be given every three or four hours. The author cautions the practitioner that in exhibiting the drug after this plan, the patient ought to be seen and his pulse examined before each dose; if it cannot be done, he advises that it should be given as in the anodyne method above mentioned. The tincture has been used externally by the author, rubbed on the affected part. (*Fleming.*)

To keep Iron-Filings from Rusting.—(Pharmaceutisches Cent. Blatt, 1845, p. 495.)—Iron-filings, even in well-stopped bottles, will rust; in order to prevent this, M. Rigleini rubs up the filings with an equal weight of dry sugar, when they can be kept, even in paper, for a great length of time without rusting.

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To preserve Extracts and Plasters from Mould.—(Pharmaceutisches Cent. Blatt, 1845, p. 512.)—M. Gulielmo, in order to prevent the mould that forms upon the surface of extracts, has been in the habit, for fifteen years, of covering the surface with a layer of refined sugar about the tenth of an inch thick, before tying up the jar. The sugar crystallizes upon the surface, and prevents any change taking place there. Some plasters, such as empl. conii, cantharid., hyosc., melilot., are particularly subject to mould.

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Poisoning by Arsenic.—MM. Maresk and Lados have ascertained that when a pregnant woman is poisoned with arsenic, the arsenic may be transmitted to the fœtus. In an official investigation of a case of this kind, they discovered traces of the poison in a fœtus at the fourth month. The uterus and the placenta also contained arsenic, but the placenta contained a proportionally larger quantity than the fœtus. The liquor amnii contained no arsenic, at least the quantity, if any, was inappreciable.—*Bull. de la Soc. Med. de Gand.*

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Use of the Bromide of Potassium in Secondary Syphilis.—The low price of the bromide compared with that of the iodide of potassium, has induced M. Ricord to substitute that salt for the iodide in the treatment of secondary syphilitic affections. The dose of the bromide is the same as that of the iodide of potassium. It has produced the same therapeutical effects, but more slowly.—*Journal de Pharmacie*, April, 1846.

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Plica Polonica of Vegetable Origin.—The Plica Polonica appears to belong to the class of diseases which are owing to the spontaneous growth of a vegetable substance. Professor Walther, of Kiew, submitted to a microscopical examination the substance which united the hairs, and he found it to consist of a number of minute rounded or oval corpuscles, having in the centre one or two nuclei, which appeared to be the germs

of new corpuscles. These researches tend to corroborate those of Gunsbourg.—*Ibid.*

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Austrian Rhubarb.—The *Gazette des Hôpitaux* reports that rhubarb is now extensively cultivated at Brunn, in the Austrian dominions, and that large quantities of the root are annually exported to other countries.—*Ibid.*

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Treatment of Diabetes Mellitus by Balsam of Peru.—Dr. Vaughes reports in the *Journ. des Connaiss. Med. Chirurg.*, a case of diabetes mellitus cured in five weeks by balsam of Peru. The medicine was given in the dose of fifty drops four times a day, and increased to five drachms daily.

Lozenges of Iodide of Iron.—Take of iodide of iron and saffron, of each, grs. xv; mucilage of tragacanth, sufficient to make 100 lozenges. Dose, ten daily, in scrofulous affections, skin diseases, amenorrhœa, &c.

Pills of Monesia.—Take of monesia, grs. xv.; musk and camphor, of each, grs. vii. ss.; mucilage of tragacanth, a sufficiency: make into pills of one gr. each. Dose, 2 to 4, morning and evening, in catarrh of the bladder, gonorrhœa, &c.

Pills of Arseniate of Iron.—Take of arseniate of iron, gr. ii.; extract of hops, ℈i.; liquorice powder, ℈ ss.; syrup of orange flowers, a sufficiency to make 50 pills. Dose, one daily, in cancerous affections, obstinate cutaneous diseases, &c.

Solution of Arseniate of Ammonia.—Take of arseniate of ammonia, grs vi.; distilled water, ℥ vii. ss.; spirit of angelica, ℥ ss.: Mix. Dose, ♏ xv. to ♏ xxx. daily, in any fit vehicle. In psoriasis, lepra, &c.

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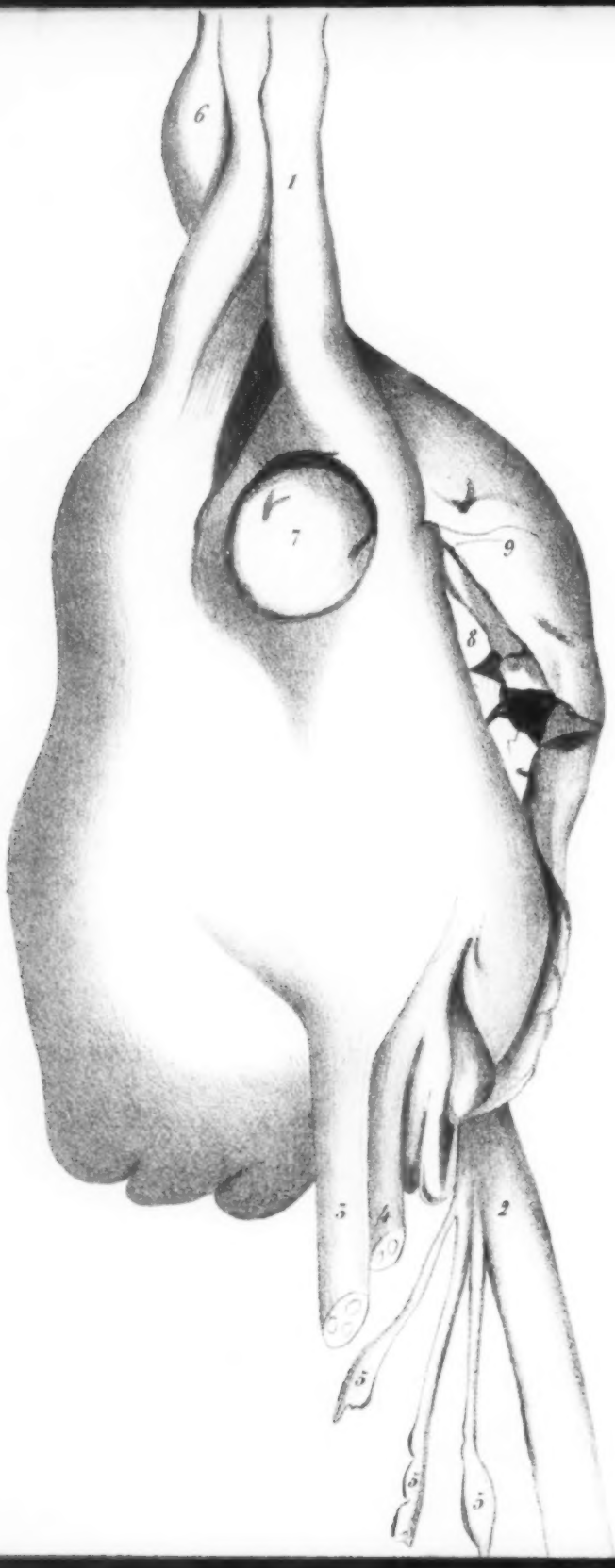
Cholera in London.—The Lord Mayor had announced the presence of the Asiatic cholera in some parts of the city, which induced the following conversation in the House of Lords: Earl Fitzhardinge made some inquiry respecting the Lord Mayor's announcement that cholera had appeared in London. The Marquis of Lansdowne replied. As soon as the report reached the Council Office, some medical authorities were consulted; and in a few hours after a medical gentleman of great capacity and experience, conversant with the practice in the different city hospitals, was sent into all the localities in which it had been asserted that cholera had broken out. He visited all the houses in those localities and also all the hospitals; but he had not met with a single instance of disease which indicated the presence of Asiatic cholera. He certainly found iustances of that disease which existed in London, and which usually appears in large cities at this season of the year; it has similarity to the Asiatic cholera, but it possesses none of the aggravated character of that dreadful plague.—*Lond. Times, Aug. 10th.*

[From other sources, we learn that diarrhœa, or *cholerine*, depending on atmospheric causes, is very prevalent in England, and we fear indicates the approach of epidemic cholera, as in 1832 and 1834.]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TO READERS AND CORRESPONDENTS.

Several articles intended for the present No. are necessarily deferred till our next, which will contain communications from Drs. A. Underhill, Batchelder, Dewees, Moses, Bliss, Ludlow, Maj. Leconte and Mr. Cozzens of this city; Drs. Williams, of Deerfield, Prof. Koeppen of the University of Athens, Greece, President Hale, of Geneva College, Dr. Earle of the Bloomingdale Asylum, etc.

We are happy to announce a series of practical papers on *Midwifery, and Diseases of Women and Children*, from the pen of Dr. James C. Bliss, of this city, prepared expressly for our Journal; the first of which appears in our present number. The great experience and sound judgment of the writer will entitle whatever falls from his pen to more than ordinary consideration. Prof. Williams will also continue his excellent series of papers on our Indigenous Medical Botany.

The proceedings of the New York Medical and Surgical Society will also be continued in our next.

Communications for the next No. should be sent in before the 1st of December next.

We have received since our last, the following publications:

An Anatomical Description of the Diseases of the organs of Circulation and Respiration. By Charles E. Hasse, M. D., etc. Translated and edited by W. E. Swaine, M. D., etc., Philadelphia. Lea and Blanchard, 1846. 8vo., pp. 377. (From the Publishers.)

The United States Dissector, or Lessons in Practical Anatomy. By Wm. E. Horner, M. D., Prof. of Anatomy in the University of Pennsylvania. 4th edition, with numerous Illustrations. Edited by Henry H. Smith, M. D., etc., Philadelphia. Lea & Blanchard. 12mo., pp. 444. 1846. (From the Publishers.)

General Therapeutics and Materia Medica, with 120 Illustrations, adapted for a Medical Text Book. By Robley Dunglison, M. D., Prof. of the Institutes of Medicine, etc., in Jefferson Medical College, etc. 3d Ed., revised and improved. In 2 vols., 8vo. Philadelphia. Lea & Blanchard. 1846. (From the Author.)

Human Physiology, with 368 Illustrations. By Robley Dunglison, M. D., etc. 6th Ed., greatly improved. In 2 vols., 8vo. Philadelphia. Lea & Blanchard. (From the Publishers.)

Elements of Physiology, including Physiological Anatomy. For the use of the Medical Student. By Wm. B. Carpenter, M. D., etc, with 180 Illustrations. Philadelphia. Lea & Blanchard. 8vo. 1846. (From the Publishers.)

The Elements of Materia Medica and Therapeutics. By Jno. Pereira, M. D., etc., with numerous Illustrations. 2d Am., from last London Ed. Enlarged and improved, with notes and additions. By Joseph Carson, M. D., etc. In 2 vols. Philadelphia. Lea & Blanchard. 1846. (From the Publishers.)

Adulterations of various Substances used in Medicine and the Arts, with the means of detecting them. Intended as a Manual for the Physician, the Apothecary, and the Artisan. By Lewis C. Beck, M. D., etc, New York. S. S. & Wm. Wood, 126 Pearl street. 1846. 12mo., pp. 133. (From the Publishers.)

The Water Cure in Chronic Disease, etc. By James Manby Gully, M. D., etc. New York. Wiley & Putnam. 12mo., pp. 405. 1846. (From the Publishers.)

A Text Book on Chemistry, for the use of Schools and Colleges. By John William Draper, M. D. With nearly 300 Illustrations. Harper & Brothers. New York. 12mo. pp. 408. 1846.

A Review of Homœopathy, Allopathy, and "Young Physic." By L. M. Lawson, M. D., etc. Lexington, Ky. 1846. 8vo., pp. 34. (From the Author.)

A Practical Treatise on the Diseases of Children. By James M. Coley, M. D. Philadelphia. 1846. 8vo., pp. 412. (From the Publishers.)

The Trees of America, Native and Foreign, Pictorially and Botanically Delineated, and Scientifically and Popularly described, etc. Illustrated by numerous Engravings. By D. J. Browne, author of the Sylva Americana. Harper & Brothers. 4to., pp. 520. 1846.

Report of Interments in the City of Charleston, with the name and number of each disease, from 1828 to 1846. The Prevailing Disease in each month and the Thermometrical Range. By John L. Dawson, M. D. City Register. Charleston. 1846. 8vo., pp. 21.

Isopathia, or the Parallelism of Diseases. By John M. B. Harden, M. D. (From the Am. Jour. Med. Science.) (From the Author.)

Some Observations on the Ethnography and Archæology of the American Aborigines. By Samuel George Morton, M. D., etc. 8vo., pp. 19. 1846. (From the Author.)

The Factory System, and its Hygienic Relations. An Address, delivered at Boston, at the Annual Meeting of the Mass. Med. Society, May 27. 1846. By John O. Green, M. D. Boston. 8vo., pp. 34. (From the Author.)

An Essay on Congestive Remittent Fever, containing an Explanation of its Phenomena and the Modus Operandi of the Therapeutical Agents employed by the application of Electrical Laws. By O. F. Monson, M. D. Richmond, Va. 1846. 8vo., pp. 11.

Annual Circular of the Mass. Med. College, with the History of the Medical Department of Harvard University. A Catalogue of Graduates, etc. Boston. 1846. 8vo., pp. 32.

Jarvis's Lectures on Fractures and Dislocations, together with concise Instructions in the use of the Adjuster. 1846. (From the Author.)

A Dictionary of Practical Medicine, etc. By James Copland, M. D., etc. Edited, with additions, by Charles A. Lee, A. M., M. D., etc. Vol. II. Harper & Brothers, New York. 1846.

Several other works received will be acknowledged and noticed in our next.

The usual Medical Periodicals have been received in exchange.